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AUTHOR St. John, Edward; Bardzell, Jeffrey; Michael, Robert; Hall, Gayle; Manoil, Kim; Asker, Eric; Clements, Margaret

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ABSTRACT

A study examined the implementation of the Indiana Early Literacy Intervention Grant Program during the 1997-98 school year, when the program funded a total of 133 projects and served 9,685 students in its first year. The study incorporated an analysis of existing databases, a systematic review of the research literature on reading interventions, and the analysis of a survey of funded projects (Reading Recovery (tm), Early Literacy Learning Initiative, full-day kindergarten, and other early literacy interventions). Four research questions were addressed: What is the early literacy challenge in Indiana? Did the funded school corporations implement interventions with a high probability of success? What is the most appropriate way to evaluate the impact of the program? and How can the administration of the Early Literacy Intervention Grant Program be enhanced to further improve program impact? Key findings indicated that: (1) the program reached school corporations that were in need of supplemental services; (2) the funded projects used intervention methods that have inherently high probability of increasing the number of Hoosier children who read on grade level by the end of third grade; and (3) the costs of these interventions were reasonable, relative to their anticipated effects. (Contains 83 references, and 6 figures and 29 tables of data; appendixes contain a list and description of program features by category, the review format, a list of funded projects, survey methods and responses, and the survey instrument.) (RS)

Indiana's Early Literacy Intervention Grant Program Implementation Study

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This report was prepared for the
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by the

Indiana Education Policy Center
Indiana University

The report was authored by

Edward St. John
Jeffrey Bardzell
Robert Michael
Gayle Hall
Kim Manoil
Eric Asker
Margaret Clements

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This project was done in collaboration with teachers, coordinators, policymakers, and researchers throughout the state. Specifically, this collaboration included:

Indiana Department of Education: *Suellen Reed*, State Superintendent of Public Instruction; *Terry Spradlin*, Legislative and Policy Analyst; *Earlene Holland*, Associate Director, Office of Program Development; *Phyllis Usher*, Assistant Superintendent; *Laura Taylor*, Education Consultant, School Finance; and *Mary Beth Morgan*, Prime Time Manager.

Project Advisory Board: Roger Farr, Director, Center for Innovation in Assessment, Indiana University (IU); *Leo Fay*, Professor Emeritus, IU; *Earlene Holland*, Associate Director, Office of Program Development, Indiana Department of Education; *Jack Humphrey*, Director, Middle Grades Reading Network; *Marie McNelis*, Reading Specialist, MSV Washington Township Schools; and *Carl B. Smith*, Director, ERIC Clearinghouse on Reading, English, Communication, IU.

Focus Group: *Richard Althoff*, Assistant Superintendent, Madison Consolidated Schools; *Carolyn Brown*, Supervisor of Instruction and Alternative Education, Greater Clark County Schools; *Ken Fowble*, Assistant Superintendent of Northwest Allen County Schools; *Kathy Gilbert*, Title I Supervisor, Greater Clark County Schools; *Janet Groomer*, Reading Specialist, Brownsburg Community School Corporation; *Linda Hogan*, Director of Indianapolis Public Schools Even Start Program; *Karen Layton*, Coordinator, Curriculum Services, Fort Wayne Community School Corporation; *Connie Waltz*, 2nd Grade Teacher, Carmel Clay Schools; *Ruth Warren*, Director of Title I, South Bend Community Schools; *Mary Jo Williams*, Reading Recovery® Teacher Leader, Anderson Community School Corporation.

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Executive Summary

Through the leadership of Dr. Suellen Reed, Superintendent of Public Instruction, the Indiana Department of Education implemented the Early Literacy Intervention Grant Program in the 1997–98 school year. This program was designed to increase the percentage of students who can read on grade level by the end of third grade. It funded the training of Reading Recovery® teachers, along with projects undertaken by school corporations to meet their local literacy challenges.

This report examines the implementation of the Early Literacy Intervention Grant Program during the 1997–98 school year, when the program funded a total of 133 projects and served 9,685 students in its first year. The study incorporates an analysis of existing databases, a systematic review of the research literature on reading interventions, and the analysis of a survey of funded projects. The key findings from the study include:

- *The Early Literacy Intervention Grant Program reached school corporations that were in need of supplemental services.*
- *The funded projects used intervention methods that have an inherently high probability of increasing the number of Hoosier children who read on grade level by the end of third grade.*
- *The costs of these interventions were reasonable, relative to their anticipated effects.*

While further research will be needed to document the effects of the first- and second-year projects on student learning outcomes, this first-year implementation study indicates the program has a good chance of improving early literacy outcomes in Indiana. The study addresses four research questions. The specific findings related to each of the research questions are summarized below.

1. ***What is the early literacy challenge in Indiana?***

   While Indiana ranks high nationally in fourth grade reading achievement, the state is close to the national average in referrals to special education. Given that many of the students who are referred to special education have trouble learning to read, there are still large numbers of students who require more help. The Early Literacy Intervention Grant Program can help address this challenge: (a) by improving the reading skills of students who do not develop adequate reading skills in the regular classrooms, and (b) by providing an opportunity for schools facing more severe challenges to restructure their early literacy instruction.

   The comparison of third-grade ISTEP+ reading scores for funded and non-funded school corporations indicates that funded corporations had lower achievement scores than non-funded corporations, a pattern evident for both Reading Recovery® projects and other projects funded through Early Literacy Intervention Grant Program. This

indicates that the supplemental funding provided by the Early Literacy Intervention Grant Program reached districts with a higher need for these services.

To determine whether the goals of the Early Literacy Intervention Grant Program were achieved, it will be necessary to monitor the number of children referred to special education for learning assistance, as well as to analyze achievement test scores. Therefore, it will be necessary to collect information on referrals to special education services, as a supplement to information routinely collected on student achievement.

2. ***Did the funded corporations implement interventions with a high probability of success?***

To address this question, we examined both the research literature and the results of the survey of funded corporations. The analyses examined four groups of funded projects.

(a) *Reading Recovery®*

- *The funded projects*: The Reading Recovery® program is designed to improve decoding and comprehension of low-achieving first-grade students. Students are provided with a systematic one-on-one intervention. In Indiana 70 corporations received funding totaling $1.7 million and served 1,855 students. Further, 184 teachers received training in Reading Recovery® during the first year of the program.
- *Research base*: The Reading Recovery® program has a strong research base that supports the claim that Reading Recovery® helps raise low-achieving students to grade level. There is also evidence from some studies that Reading Recovery® can reduce more costly special education referrals.
- *Implemented program features*: A survey of Reading Recovery® projects that were implemented in Indiana during the 1997-98 school year shows that the program features that are considered crucial to the success of the program were consistently implemented. Because the Reading Recovery® projects appear to be implemented appropriately, there is an increased probability that students completing the Reading Recovery® program will achieve on grade level and will not require special services.
- *Costs and effects*: The additional costs to the state for training Reading Recovery® teachers were relatively low compared to the potential improvements in student outcomes: the state's costs for teacher leaders and teachers trained during the 1997–98 school year were about $917 per student served by these teachers. Thus, the program has a reasonable return in relation to the costs the state has incurred. Further, many of the newly trained teachers will continue to provide training, which will further increase the returns to the state on this investment. The state's costs per student served were lower in school corporations that had teachers who were trained in previous years. In the 1997–1998 school year, the state also paid Reading Recovery® maintenance costs and Reading Recovery® costs (to Purdue University). If

these costs are included, then the state's per-student-served cost for the 1997–1998 school year increases by $150 per student serviced by teachers, to a total of $1,066 per student.

(b) *Early Literacy Learning Initiative* (ELLI)

- *Funded projects*: The ELLI program is a whole school intervention process that enables schools to restructure regular classroom reading instruction in a manner that is more compatible with Reading Recovery®. Four school corporations that returned surveys have projects classified as similar to ELLI—at least conceptually. This grant provided funding for projects serving a combined total of 423 students at a cost of $219,237. Further, 74 teachers and staff received professional development opportunities as part of these projects.
- *Research base*: The ELLI program is well-conceived and logically should improve literacy for all students. However, ELLI is a new program and lacks a research base. Thus, research is needed and the systematic evaluation of the Indiana ELLI projects can help develop the research base.
- *Implemented program features*: The ELLI projects are being implemented in a manner that appears reasonably consistent with the program design.
- *Costs and effects*: The state grant funds per student in ELLI were $518, a substantially lower cost per student than Reading Recovery®. If the program raises average literacy achievement in funded schools or reduces referrals to special education, then it would be a good investment for the state.

(c) *Full-Day Kindergarten*

- *Funded projects*: Seven full-day kindergarten (FDK) projects were funded by the Early Literacy Intervention Grant Program, serving 218 students at a cost of $277,960. Further, 21 teachers and staff received professional development opportunities as part of these projects.
- *Research base*: The research literature indicates that full-day kindergarten improves emergent literacy and can have a sustained effect on literacy in the third grade if the literacy component of the FDK program combines phonological awareness with the literature rich and developmental approaches typically included in kindergarten programs.
- *Implemented program features*: Five of the funded full-day kindergarten projects included the combination of instructional features that are associated with sustained literacy improvements.
- *Costs and effects*: The IDOE Early Literacy Intervention Grant Program subsidized these full-day kindergarten projects at an average cost of $1,275 per student, although actual subsidies varied substantially (from $75 to $3,473). This average per-student cost appears reasonable, given the apparently sound design of these interventions and apparently high probability of having a sustained impact on literacy.

(d) *Other Early Literacy Interventions*

- *Funded projects*: 52 other early literacy interventions were funded, receiving a total of $1,165,158 and serving 7,189 students. These numbers exclude the ELLI and FDK interventions, which were discussed above. A total of 39 of these projects returned surveys. A total of 537 teachers and staff had professional development opportunities as a part of these projects. The projects used diverse approaches to literacy improvement.
- *Research base*: Our review of the literature indicates that the efficacy of early literacy interventions is increased if they include: recognition of the complexity of literacy; a coherent, well-conceived, and comprehensive design; and a well-defined focus on outcomes combined with an experimental (inquiry-based) approach.
- *Implemented program features*: The 39 funded projects that returned surveys were quite diverse in their form and content. Some programs (including Success For All, Even Start, Four-Block, and a few other projects) appeared to include the features associated with successful literacy improvement. However, many of the programs did not include these features.
- *Costs and effects*: The state's costs associated with these projects, $162 per student served, were relatively modest. Many of these class-wide and school-wide early intervention projects developed new approaches for improving literacy instruction. The costs per student served are lower than for the other methods examined.

3. ***What is the most appropriate way to evaluate the impact of the program?***

An early literacy intervention program should improve literacy skills and reduce retention and special education referrals. However, the current evaluation plans used by the funded schools do not routinely report this information. This situation can be improved by:

(a) requiring sites with small grants to provide descriptive evaluations that include summary information on student achievement, retention rates, and special education referrals,

(b) ensuring that schools with large projects incorporate well-designed formative evaluations or experimental designs with appropriate control groups, and

(c) systematically assessing the impact of the implemented projects on student outcomes, including reductions in special education referrals and retention rates as well as improvements in literacy achievement.

4. ***How can the administration of the Early Literacy Intervention Grant Program be enhanced to further improve program impact?***

Based on the first-year study results, it also is possible to recommend program enhancements for the next biennium.

(a) *A professional development component of the Early Literacy Intervention Grant Program should be generally available to schools.* The support for professional

development provided by Reading Recovery® through Purdue University should be encouraged, along with new university-based centers (or school-university partnerships) for professional development. However, new centers should be carefully planned and pilot-tested.

(b) *The other component of the Early Literacy Intervention Grant Program should emphasize classroom and school-wide intervention in high-need schools.* These projects should be funded for a two-year period. The components of the program should include the following: an approved list of interventions for which there is a research base (e.g., Success For All); a list of programs that merit further testing because they are sound conceptually but lack a research base (e.g., ELLI and Four-Block); and opportunities for schools to design their own interventions that meet three criteria common to successful interventions.

(c) *The Indiana Department of Education (IDOE) should initiate a process for approving university-school partnerships (or centers) that provide professional development opportunities for reading intervention and/or facilitation of school-wide intervention.* For example, Purdue University should be encouraged to continue to support Reading Recovery® as well as to pilot test the ELLI. A select few other centers or partnerships should also be actively encouraged. However, it is important that these new ventures build a research base.

(d) *The IDOE should provide workshops on school planning proposals for school-wide literacy intervention projects.* These workshops should introduce strategies for developing early literacy interventions that are coherent, cohesive, and comprehensive, as well as provide guidance in the development of evaluation plans.

(e) *The site-based evaluation component of the Early Literacy Intervention Grant Program should be strengthened.* It should include two types of evaluations:

- Schools with small grants (including schools in the general program) should be required to complete descriptive evaluations that provide an overview of the project (features implemented and students served) as well as information on student outcomes (retention rates, special education referrals, test scores), and
- Schools with school-wide literacy improvement grants should complete well-designed evaluations with appropriate methodologies.

(f) *A state-wide study should be conducted.* It should include:

- An examination of early literacy projects in funded schools and a sample of non-funded schools, and
- A study of literacy programs in funded and non-funded schools that determine whether the projects funded in 1997–1998 influence referral rates, retention rates, and literacy achievement.

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Chapter I

Introduction

For more than three decades, educators and policymakers have experimented with different approaches for improving the reading skills of school children. For example, since the passage of the Elementary and Secondary Education Act in 1965, the federal government has provided supplemental funding through the Title I program to support interventions aimed at improving achievement for school-aged children. Title I provides funds that serve high-need populations. Of all the challenges facing schools, ensuring that students are able to read by third grade remains one of the most crucial, because reading is necessary for children to learn other subjects from third grade through the remainder of their lives. If by the end of third grade, children cannot read and comprehend material written for their grade level, then they are at greater risk of falling behind in school and dropping out.

During the 1997-98 school year, through the leadership of Dr. Suellen Reed, Superintendent of Public Instruction, and the Indiana Department of Education (IDOE), Indiana took a bold step in its effort to increase the percentage of students who meet this literacy challenge. During the 1997 session of the Indiana General Assembly, Dr. Reed and the IDOE introduced the "Reading & Literacy Initiative for a Better Indiana." As a result the legislature established two new grant funds: (a) the Early Literacy Intervention Grant Program, and (b) the school library materials grant. The goal of the Early Literacy Intervention Grant Program was to improve early literacy. It funded training for Reading Recovery® and other site-based interventions. This report examines the first-year of the Early Literacy Intervention Grant Program (ELIGP). In this introduction, we describe ELIGP, the research approach, and report organization.

Early Literacy Intervention Grant Program

In 1997-98, the IDOE initiated an Early Literacy Intervention Grant Program aimed at helping more students meet the literacy challenge. Funding was provided for schools to "develop literacy programs, such as Reading Recovery, to meet the needs of primary students and to ensure that their reading skills are advancing to a proficient level" (Reed, 1996, p. 2). Thus, a critical literacy challenge is to enable more students to attain sufficient reading skills by the end of third grade so that they are able to read and comprehend the texts included in the normal school curriculum.

ELIGP provided funds to corporations across the state for training Reading Recovery® teachers and for other locally-developed interventions. Below we provide an overview of the funded corporations along with the goals and limitations of the evaluation.

Funded Corporations

A substantial portion of the funding under the IDOE's Early Literacy Intervention Grant Program went to schools for funding the training of Reading Recovery® teachers. The funds for Reading Recovery®, approximately $1.7 million, were allocated for the training of 184 teachers in 70 corporations and for the training of ten new Reading Recovery® teacher trainers (see Table 1.1). These funds directly benefited 140 schools in which opportunities for students to meet the literacy challenge were increased by the presence of new Reading Recovery® teachers.

In addition, 54 school corporations representing 63 projects (including the Early Literacy Learning Initiative [ELLI] and full-day kindergarten [FDK] projects) received funding for other early literacy intervention (OELI) projects. For the 1997-98 school year, virtually all of the school corporations that proposed projects were funded for at least part of the proposed project, together receiving about half of the funding ($1.66 million).

Table 1.1
Grant Amounts and Number of Projects

PROGRAM TYPE	AMOUNT STATE $[2]	CORPORATIONS WITH	SCHOOLS WITH	ESTIMATED STUDENTS[4]
Reading Recovery® trainers[1]	596,482	10	NA	NA
Reading Recovery®	$1,104,000	70	140	1855[3]
Other (includes ELLI and FDK[5])	1,662,335	54	142	7830
Totals	2,766,335	107	262	9685

Notes:
[1] The $596,482 for the training of ten new Reading Recovery® trainers (teacher leaders) was allocated directly to Purdue University, rather than to the school corporations.

[2] The state funding is derived from information provided with the approved applications, rather than from surveys.

[3] The number of.Reading Recovery® teachers trained this year was 184. Reading Recovery® teachers in training do not serve as many students as do fully trained teachers (at 8 students/year, 184 fully trained teachers serve about 1,472 students). A teacher in training might serve half that number of students (736). To be generous, we assumed 6 students per teacher, which yields 1,104. One question on the survey asks respondents to indicate the expected number of students served. The sum for the 50 Reading Recovery® surveys is 1,501 students served by 125 teachers, or 12 students reported served by Reading Recovery® teachers. This is twice the number of students usually said to be served by a teacher while in the training year.

[4] The estimated number of students is derived from estimates provided in the survey responses for corporations that completed surveys and from the estimates in the applications for corporations that did not return the surveys.

[5] FDK = Full-Day Kindergarten.

Source: Early Literacy Intervention Grant Program Survey, 1998. See Appendix D.

The targeting of funds during the 1997-98 school year was constrained by the timing of the legislature's funding of the program. The budget for the program was not passed until June of 1997. Consequently, there was little time to inform schools about the program in advance of the 1997-98 school year. School corporations had less than two

months to respond to requests for proposals and to implement their programs. However in the second year of the Early Literacy Intervention Grant Program, there was more time for schools to plan for the program and, consequently there was more extension demand for the program.

An estimated 9,685 students were served by ELIGP in the 1997-98 school year (Table 1.1).[1] This included 1,855 for Reading Recovery® sites and 7,830 for the other early intervention projects. In addition, most of the 184 teachers trained by Reading Recovery® in the 1997-98 school year will continue to serve additional students in future years and the ten new trainers (teacher leaders) will expand the capacity for providing Reading Recovery® training in the state.

Research Questions

The intent of the new program was to "serve as a catalyst to many potential cost-saving benefits to the state, such as a reduction in personnel costs for future remediation, retention, and some special education services" (Reed, 1996-97, p. 2). Thus there is a clear intent to reduce the costs of supplemental education through improving early literacy. However, an evaluation design was not explicitly developed at the outset of the program.[2]

The IDOE requested the Indiana Education Policy Center to conduct a study of the first year of the program. Because the new program was first implemented in the 1997-98 school year, it was not possible to assess the impact of the program on student outcomes—either on improvement in student achievement or on reductions in retention and referrals—within the current school year. Further, the diversity of funded programs, coupled with the fact that a requirement for site based evaluations had not been integrated into the design, made it exceedingly difficult to evaluate the outcomes of the program. Therefore, it was neither feasible nor desirable to focus on the impact of the program within its first year.

However, it was possible to assess the implementation of the new program during the first year to study the implementation process and to recommend an evaluation approach for subsequent years. Accordingly, the Center developed a study of program implementation, focusing on four specific questions:

(1) What is the early literacy challenge in Indiana?

To address this first question, the study team examined national survey data on education in the United State and compared funded and non-funded corporations in Indiana using information from the IDOE data system.

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[1] The number of students served was estimated from a survey returned by 100 corporations and the estimate in the original proposal for corporations that did not return the survey.

[2] It is not unusual that an evaluation plan was not included in the original design for the program. As we discuss in the concluding chapter, it is possible to refine the program design in the future to include a more explicit emphasis on evaluation.

(2) Did the schools implement interventions that have a high probability of success?

This was the central question addressed in the study. We approached this question by examining four subsidiary questions:

- *Did the funded projects include program features that were logically related to literacy outcomes?*

  We used a systematic and critical literature review to develop a general framework for evaluating literacy interventions. This framework links specific program features to specific literacy outcomes. We used this framework to analyze the features of a range of literacy interventions.

- *Is there a research base to support the claims about the program features?*

  We used the framework for literacy improvement as a basis for finding programs with a research base, then used the framework to examine this research critically. We used this method to judge how the features of various types of literacy interventions influenced literacy improvement.

- *Did the specific program features implemented by schools have a sound logical and empirical basis?*

  We examined the responses on the survey of funded projects to determine which program features had been implemented. We compared the features that were implemented to the intended design and research base, in order to assess whether the school's implemented program features had a high chance of success.

- *Did the implemented programs have reasonable direct costs to the state, given their expected effects?*

  We compared the results of our assessment of the program implementation to the per student expenditures on the program. Specifically, we examined the dollars spent from the state grant for the average student served during the program year in relation to the likely effects of the intervention.

(3) ***What is the most appropriate way to evaluate the impact of the funded programs on student outcomes?***

We examined the responses to survey questions about the methods that schools planned to use to evaluate their projects, and thought critically about different approaches to evaluation based on our review of related research.

(4) ***How can the administration of the Early Literacy Intervention Grant Program be enhanced to improve early literacy?***

We reflected on the results of all of the analyses described above, in an attempt to provide practical advice to guide the future development of the program.

Goals for the Study

The report provides useful information about the implementation of the Early Literacy Intervention Grant Program, as well as provides analyses that might influence the future development of early literacy intervention projects in Indiana. The goals of this report are to provide:

- objective information about the implemented projects and their likely effects;
- analyses that inform state decisions about the future refinement and development of this and other educational improvement initiatives;
- a new framework that can potentially advise schools about the design and development of early literacy intervention; and
- a workable approach for evaluating the impact of the Early Literacy Intervention Grant Program on student outcomes.

Organization of the Report

This report has nine chapters, including the introduction. In the overview of our study approach (Chapter II), we discuss both the framework developed for the study and the research methods used to address the research questions.

In Chapter III, we examine the literacy challenge in Indiana. We use existing data sources to address the question: *What is the early literacy challenge in Indiana*?

In the next four chapters we summarize our analysis of funded programs. Separate chapters address research questions on Reading Recovery® (Chapter IV), Early Literacy Learning Initiative (Chapter V), full-day kindergarten programs (Chapter VI), and other early literacy interventions (VII). These analyses focus on the question: *Did the funded schools implement interventions that have a high probability of success?*

Next, we consider how the evaluation of program outcomes can be more appropriately organized for the current program year and in the future (Chapter VIII). This analysis considers the results of our survey, supplemented by an examination of alternative evaluation strategies. It focuses on the question: *What is the most appropriate way to evaluate the impact of the funded programs on student outcomes?*

Finally, we consider the question: *How can the administration of the Early Literacy Intervention Grant Program be enhanced to improve early literacy?* We conclude (Chapter IX) by providing practical guidance for the future development of the Early Literacy Intervention Grant Program in Indiana.

Chapter II

Study Approach

Until recently, scholars who study reading have been deeply divided, with one camp favoring whole language approaches to literacy improvement and the other favoring systematic phonological approaches. These conditions created a perplexing situation for many educators concerned about improving early literacy. The strategies they chose often depended on what they had read, what they believed, and/or what they experienced in the classroom. However, recent developments in practice and research suggest that a new common ground might be forged.

First, several of the literacy interventions field-tested in the past decade have integrated aspects of both the whole language and phonological approaches to literacy improvement. In particular, both the Reading Recovery® and Success For All programs have features that draw from both of these philosophies and both have substantial research bases. The Reading Recovery® program, developed by Marie Clay (1979), is situated in the whole language tradition, but reconceptualizes decoding, the literacy outcome most directly targeted in phonological approaches to literacy instruction. Conversely, the Success For All restructuring model (Slavin, Madden, Karweit, Dolan, & Wasik, 1990) relies heavily on years of research on phonological approaches to reading, but also emphasizes meaning and a literature-rich environment, core aspects of the whole language approach. Whereas Reading Recovery® is a pull-out program offering one-on-one instruction to high-need first-graders, Success For All is a whole-school restructuring process for early primary literacy programs. Thus, new approaches, represented by Reading Recovery® and Success For All are being developed in the field and essentially provide a vision of how the two formerly divergent philosophical approaches might be integrated.

Second, a recent systematic analysis of the literature by a team of nationally noted scholars concluded that children should be exposed to literature-rich environments, along with direct instruction that emphasizes decoding skills (Snow, Burns, & Griffin, 1998[3]). Their report, *Preventing Reading Difficulties in Young Children*, lays the groundwork for a more complete integration of methods, which may lead to the development of new approaches to early literacy intervention which will increase the chances of learning to read for more children. However, the Snow et al. study has limitations, and it does not

[3] The Snow et al. study (1998) was requested by the U. S. Departments of Education and of Health and Human Resources. It was conducted by the Committee on the Prevention of Reading Difficulties in Young Children, Catherine Snow, Chair, for the National Research Council.

provide a framework, or organizing structure, that could guide this study of early intervention programs.

In this chapter we present the research framework developed for the study of the Early Literacy Intervention Grant, as well as describe the research approach we used in this implementation study. We also consider how the new framework increases our ability to address the specific research questions noted earlier.

Framework for the Study

When we started the current study, we did not know that the National Research Council had a study (i.e., Snow et al., 1998) underway that addressed some of the same questions that concerned us. Still, had we known of their study it would have been necessary to develop a new framework as illustrated by two specific limitations of this seminal review.[4]

First, in their review of the research, Snow et al. (1998) acknowledged that different researchers use different types of instruments to measure literacy outcomes, but they do not reflect critically about the implications that flow logically from the choice of a particular instrument. For example, they reviewed a study by Iversen and Tunmer (1993) that integrated phonologic decoding into the Reading Recovery® program and used an instrument that measures this form of decoding skill (the Dolch Word Recognition Test) to evaluate the results in comparison to the regular Reading Recovery® method. Snow et al. (1998) used this study to argue that there are some serious limitations to Reading Recovery®. We reached a slightly different conclusion about the implications of the Iversen and Tunmer study, because we recognize that different tests measure different literacy related outcomes.[5] Thus, it is important that a framework that attempts to identify effective literacy improvement strategies not only include critical thinking about the methods and instruments used to measure student outcomes, but also include critical reflection about the relative importance of different types of literacy outcomes.

Second, Snow et al. (1998) did not explicitly consider the features of different types of early literacy interventions. As with some other recent meta-reviews (Talley & Martinez, 1998; Northwest Regional Education Laboratory, 1998), Snow et al. included a review of research on major interventions, such as Reading Recovery® and Success For All. However, they did not examine specific aspects, or features, of these programs and how these features linked to literacy outcomes. Had we used this approach for the current project, we could not examine specific aspects of programs, because local schools and corporations had discretion over which types of program features they included in their interventions. They could mix-and-match features to address local needs, as well as implement a predefined package or methodology. Therefore, we needed to investigate the nature of specific program features and how they might link to specific program outcomes.

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[4] We consider it fortunate that the Snow et al. (1998) study was completed in time to have an influence on this report. Indeed, we think our efforts build on insights reached in the Snow et al. review.

[5] We are not dismissing the Iversen and Tunmer (1993) study as unimportant, but rather pointing to the need to think critically about the types of instruments used in literacy research.

Thus, in the current study we developed a new analytic framework for assessing literacy interventions. This framework, provides a meta-structure for assessing the linkages between the specific features of literacy interventions and specific literacy outcomes. A summary of the framework is presented in four parts: (a) literacy outcomes, (b) program features, (c) research base, and (d) costs and effects.

Literacy Outcomes

When examining the effects of a wide range of literacy interventions, it is important to recognize that different types of literacy intervention focus on different types of outcomes. We identify four specific outcomes that are the focus of various types of literacy interventions.

Emergent Literacy (or Reading Readiness)

Emergent literacy includes linguistic knowledge (e.g., grammar, oral comprehension, phonological awareness) and conceptual knowledge (e.g., symbols and representation, concepts about print) that are central to reading. Emergent literacy is an indicator of whether the child is ready to learn to read. Historically, it has been treated as an outcome of kindergarten, and appropriately so. Acquisition of emergent literacy skill is related to children's development (Vygotsky, 1978), their awareness of concepts and meanings, and their ability to relate meanings to linguistic symbols.

Decoding

Historically, the concept of decoding was defined by many advocates of direct instruction as "phonologic decoding" (Snow et al., 1998, p. 52[6]). This approach to decoding focuses on phonological aspects of language—rhyme, alliteration, phonemic sequences, and so forth—as techniques for decoding written language into oral and vice versa. Research generally shows that this form of decoding, what we call *Decoding A*, is the best predictor of later reading success (e.g., Foorman, 1995, who cites 16 studies supporting this conclusion).

A second kind of decoding, which we refer to as *Decoding B,* originated in the whole language paradigm. It not only includes the basic concepts embedded in Decoding A, but also emphasizes understanding the meanings associated with language. Thus, Decoding B links more directly to comprehension than does Decoding A and could explain why some students might be able to decode—and indeed, may even be able to read a text out loud—but not be able to comprehend the text. Marie Clay (1979, 1991, 1993), the founder of Reading Recovery®, was one of the first to emphasize Decoding B.[7]

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[6] Snow et al. (1998) carry forward this notion of decoding without reflecting on the possibility of an alternative definition. We think this limitation of their review method partially explains their criticisms of Reading Recovery®. The research team is expanding this framework as a part of a systematic review of research on selected early intervention programs.

[7] The reader is reminded of the Iversen and Tunmer (1993) finding about modifying Reading Recovery® to enhance learning of Decoding A skills. Students who acquire decoding skills could (*continued on next page*)

Basic Comprehension

At the kindergarten to third grade (K–3) level, basic comprehension refers to sentence-level comprehension. Typically, children are given a four-sentence passage and asked questions to test whether they understand the literal meaning of the sentence. This basic understanding, then, would seem to be the minimum foundation for comprehending across subjects.

In the direct instruction model of literacy, comprehension is separated from decoding (Decoding A) and measured separately. In the whole language paradigm (Smith & Goodman, 1971; Weaver 1994; Tierney, Readence, & Dishner, 1995), including Reading Recovery® (Clay, 1991), the acquisition of decoding is more directly linked to comprehension, which explains how this community of interest generated a conception of decoding that included this cognitive linking structure (Decoding B).

Critical Literacy (or Critical Thinking)

Understood in the most rudimentary terms—appropriate for the early primary age group—critical literacy refers to the ability to place oneself in relation to a text, to see the text as a communication which allows for and even requires some kind of interpretive response to its content. Some proponents of whole language argue that it is critical for literacy instructors actually to motivate readers to do the substantial work required to decode (Tuman, 1987; Wilson, 1986). However, regardless of the particular beliefs or school-of-thought that each advocates, most literacy experts agree that critical thinking is an important component of literacy, and the majority of literacy tests used in the third and fourth grade include this type of critical thinking skill as one of the "higher order" skills measured on the test.

Understanding Literacy Outcomes (and Measurement Instruments)

When reviewing literature on literacy, it is important to understand that reading comprises a complex set of skills—decoding, comprehension, and critical literacy—and items that test these skills are included in most standardized tests of literacy and intelligence. Emergent literacy represents a requisite ability that is influenced by developmental processes, as well as by literacy instruction.

Further, when trying to determine whether a specific program feature has a "research base" it is important to note what type of outcome the intervention is intended to influence. Very often researchers and program advocates[8] select outcome measures that relate to a specific outcome, such as Decoding A or emergent literacy. Other studies use more general measures of literacy achievement, such as standardized tests, that incorporate several items to test skills related to each of these outcomes.

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still have trouble comprehending. The use of an instrument that measured decoding to assess the effects of Reading Recovery® could miss the specified intent of the program.

[8] And frequently in educational research, the advocates of programs are frequently the contributors of research on the programs (e.g., Slavin and Madden, 1990).

Program Features

Program features are the specific components of literacy interventions that are thought to influence literacy outcomes. In our reviews, we have found that different types of features link to different types of literacy outcomes. Therefore, it is important to examine the types of program features included in a program, as well as the program effects.

When we started the literature review we began to pay attention to program features because we knew intuitively that the early literacy interventions funded as Other Early Literacy Interventions (OELI) might combine diverse program features, mixing and matching features of various programs in a locally constructed project. We realized it is important to pay attention to the role of various program features. As a result of the review we developed a classification framework of program features (organizational/structural, theoretical/philosophical, instructional, professional development, and parent involvement), and then conceptualized a model of how these components might work together in the literacy improvement process. A full list of program features that were identified in the literature is included in Appendix A. The categories of program features and the model are described briefly.

Structural/Organizational

Most interventions are organized—or structured—into a coherent whole. The structure consists of specific features, such as the use of one-on-one or whole class instruction, and the use of certain materials, such as basal readers. These structural features essentially define how the intervention is delivered to the student. (See Appendix A for a list of organizational and structural features derived from the literature.)

Theoretical/Philosophical

Most literacy interventions are based on a philosophy, or paradigm, of reading intervention. Usually this involves phonological, whole language, or developmental approaches. Sometimes multiple theories or philosophies may inform the design of programs.[9] (A list of the theoretical/philosophical approaches derived from the literature is provided in Appendix A.) In this study, we are concerned about the application of philosophy in practice, rather than the mere espousal of theory. Additionally, we are aware that many applied techniques (e.g., direct phonics instruction) may have an embedded philosophy (e.g., decoding). We are concerned about both the relationship between theory/philosophy and action on the one hand, and the congruence (or incongruence) between them on the other.

[9] Indeed, one of our major conclusions is that approaches that combine philosophies have inherent advantages over those that emphasize one approach.

Classroom Instruction

Instructional methods are the specific approaches used to facilitate learning: e.g., sustained silent reading, storytelling, and so forth (see Appendix A). We limit program features classified as instructional to the strategies for the teaching of reading. These features are usually the ones that have the greatest direct effect on literacy outcomes. Thus, their coordination in an overall coherent design is especially crucial. It should also be noted that many features have an embedded philosophy. For example, until recently many *trade books* had an embedded whole language philosophy, because they emphasized student interest and literary quality, while comprehensive coverage and systematic use of vocabulary was employed by the *basal books*. More recently, however, reading programs are employing both of these features to take advantage of both benefits.

Professional Development

Professional development is the learning process used to build new skills and learn about new approaches. In an early intervention program, professional development may be the mechanism for introducing a teacher to a new technique, as is the case in Reading Recovery®. Professional development techniques also include ongoing school-based professional development, topical in-service sessions, and so forth (see Appendix A).

Parent Involvement

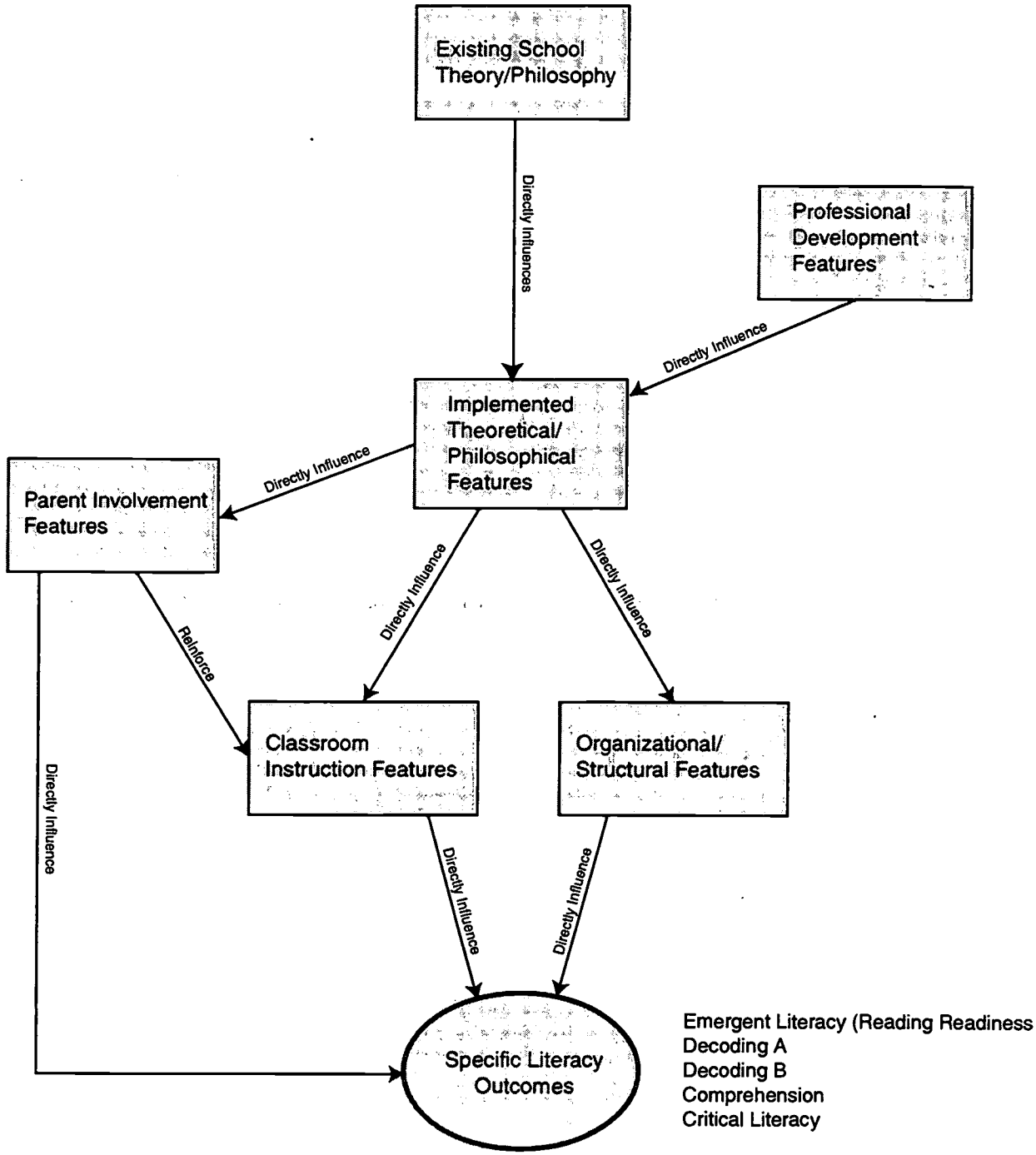
Several early literacy interventions include a parent component, and appropriately so. Parent involvement may include methods for working with children at home (e.g., book sacks, family literacy) as well as methods for involving parents as classroom volunteers (see Appendix A). Title I projects are especially likely to include a parent involvement component because this federal legislation mandates their involvement.

An Integrated Model for Intervention Processes

Based on our review of the research, we have developed the framework for assessing early literacy interventions to explain how the various types of program features fit together in the intervention process (Figure 2.1). According to this generic model, professional development and the philosophy/theory components have an indirect effect on specific literacy outcomes through other types of program features, while classroom instruction, parent involvement, and structure/organization have a direct effect. This helps us explain the research findings we have investigated and therefore is used in our presentation of various types of programs.

The framework hypothesizes that some types of program features have indirect influences on literacy outcomes and others have a direct influence. Two very important forces—the existing philosophies in the school and the professional development component of the intervention—have an indirect influence on the way in which the theory (or philosophy) embedded in the intervention is actually implemented. This nexus of philosophy and action, in turn, influences the three aspects of the program that may directly influence literacy outcomes: parental involvement, structures and organization,

Figure 2.1
Framework for Assessing Early Literacy Interventions



and instruction. A high level of congruence between (a) the philosophy or set of philosophies guiding implementation and (b) the actual strategies implemented (the parental, instructional, and organizational components) can, at least in theory, improve (c) the effects of the programs, described as the literacy outcome.

This framework for assessing literacy interventions was used to identify:

- the features of an intervention programs,
- how the program features link to literacy outcomes, and
- the specific literacy outcomes that various interventions attempt to influence.

Further, we can use the framework as a basis for critically examining the research base for various types of literacy interventions. This approach to the review of program features and outcomes help us discern which claims about program effects have empirical support.

Research Base

The framework was used for a structured analysis of the research of various types of literacy interventions. Our first step was to review a diverse set of literacy intervention programs. We derived lists of features from these descriptions, as well as hypotheses about how they link to particular programs. In this report, we illustrate these features and the ways they link to program outcomes by using figures that apply the framework to the intervention.

Next we conducted a systematic review of studies related to a particular type of program or intervention. Our review format is presented in Appendix B. In some instances we reviewed all of the studies we could find on a particular program, while in others we reviewed only selected studies. When there were many studies following a similar format, we were more likely to review only a representative sample of studies.[10]

Based on the review we judged whether the claim (the linkage between program features and outcomes) was supported, partially supported, or not supported by the research. The research generally supports the claims, in part because significant findings are more likely to be reported and published. However, this is not always the case, and there was variability in the findings of the studies we reviewed. Therefore, we also made interpretive judgements about the research.

Finally, we also looked across sets of reviews, to make judgements about the likely effects of different types and categories, and about whether they had a research base. This approach was especially helpful in our efforts to develop a set of findings that held up across different types of interventions. These interpretive judgements were particularly helpful to us in our efforts to provide guidance for the future development of the program.

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[10] An exception to this approach was our review of full-day kindergarten programs. We reviewed twenty-one studies (all we found that had been published in the past decade), because we decided a comprehensive review was appropriate, given the current debates now underway about funding full-day kindergarten in Indiana.

Costs and Effects

Finally, we analyze the costs to the state of various types of interventions relative to the types of effects that are likely to result. Specifically we calculate the average expenditures from state program funds for various types of interventions and compare these costs to the likely effects of the program features (i.e., the conceptual claims of effects and the research support) actually implemented as part of the funded projects. This measure of costs serves as an indicator of the additional cost to the state—above what they otherwise allocate—of funding the intervention.

This method provides a way for IDOE officials and educators to make judgements about the relative value of different approaches. However, we recognize that our measure of costs (the additional amount spent per student from state funds) is an artifact of the funding process. Thus, it does not provide a true measure of full per-student costs. School corporations proposed project budgets and the IDOE funded all or portions of those budgets after reviewing the proposals.

Components of the Study

This report uses analyses of several data sources to address the four research questions. This section describes our use of: (a) applications and other IDOE data sources (IDOE, 1998), (b) reviews of extant research, and (c) a survey of funded corporations.[11]

Applications and IDOE Data

During the initial stages of the project we reviewed the applications for the program written by funded corporations and entered selected data from the applications into a data base on the Early Literacy Intervention Grant Program. The initial report prepared for the study used the application data, along with data for other IDOE data sources (IDOE, 1998) to examine the implementation of the program. In Chapter III we summarize these analyses as they pertain to the question: *What is the early literacy challenge in Indiana*? We also examine additional state and national data sources to address this question.

Review of the Research Base

Increasingly, educational reformers are concerned about choosing strategies to implement for which there is a sound research base. During our study we conducted a systematic review, as described above. In this report we use the analysis of programs to address two subsidiary research questions about the effectiveness of the funded interventions:

- *Did the funded projects include program features that were logically related to literacy outcomes?*

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[11] In addition, we made site visits to a couple of Reading Recovery® sites to enhance our understanding of this program. In the fall of 1998, as the study team begins to focus on questions related to program development, we plan to make a few additional site visits.

- *Is there a research base to support the claims about the program features?*

In this report, we examine these questions as they pertain to three specific types of programs—Reading Recovery®, Early Literacy Learning Initiative, full-day kindergarten—as well as how they pertain to the diverse range of program features implemented by the 39 projects that did not fall into these classifications. Specifically, we review the research base for Reading Recovery® (Chapter IV), Early Literacy Learning Initiative (Chapter V), full-day kindergarten (Chapter VI), as well as provide a summative set of conclusions about different generic types of program features included in other funded projects (Chapter VII).

Survey of Funded Projects

This study also summarizes analyses of the survey of funded projects. The survey form is attached (Appendix D), along with information on the administration of the survey (Appendix E). In this report, we summarize survey results that help us answer two of the subsidiary questions related to the assessment of the effectiveness[12] of funded interventions:

- *Did the specific program features implemented by schools have a sound logical and empirical basis?*

- *Did the implemented programs have reasonable direct costs to the state, given their expected effects?*

To address these questions, we examine the results of the survey of funded programs. Specifically, we compare the features of implemented interventions to those advocated in the theoretical and research literatures, an approach that provides insights into the extent of implementation and into the likely effects of funded projects.

In addition, the survey results are the major information source used to address our question about strategies for program evaluations: What is the most appropriate way to evaluate the impact of the funded programs on student outcomes? To address this question we examined the responses to questions on our survey of funded programs that pertained to student evaluation and program evaluation; in addition, we reviewed alternative approaches to statewide evaluation (Chapter VIII).

Conclusion

The nature of the policy and practical discourses about educational improvement has changed substantially during the 1990s. Increasingly, policy analysts turn to the systematic review of research as a means of determining which types of intervention strategies are likely to be effective (Talley & Martinez, 1998; Northwest Regional Educational Laboratory [NWREL], 1998). Indeed, a list of approved school restructuring

[12] One limitation of the survey should be noted. Because the survey was developed and administered before the framework was completed, the survey did not ask all of the questions that could have been asked to use the framework fully for the evaluation of program effects and costs.

programs for the new federal Comprehensive School Restructuring Demonstration Program was generated from such reviews.

In this report we extend this emerging approach to the use of educational research as one source of information for policy decisions. Based on a systematic review of the literature, we develop a framework so that we can discern the likely outcomes of various intervention programs. In this report we use this framework as a basis for our assessment of program implementation.

However, this study takes a step beyond the analysis of extant research to include the systematic analysis of surveys and other data sources pertaining to education in Indiana. Our approach to analyzing these data sources is focused on addressing a set of policy questions.

By addressing these questions we hope not only to provide summative information that can inform future policy decisions about the development of literacy programs, but also to build understanding that might inform site-based planning aimed at addressing the literacy challenge.

Chapter III

Indiana's Literacy Challenge

In the initial year of the Early Literacy Intervention Grant Program most of the corporations that made proposals were partially funded. Before we can assess the appropriateness of the programs implemented in Indiana, we asked the question, *What is the early literacy challenge in Indiana*? To answer these questions, we first examine the nature of the literacy challenge in Indiana, then we compare the funded and unfunded school corporations on third grade reading achievement. These analyses provide insight into the extent to which funds reached children with need for special interventions.

Indiana's Literacy Challenge

When assessing the implementation of a program, it is necessary to consider what challenge the intervention is intended to influence before we can judge whether funding reached appropriate schools and corporations. Thus, we start by trying to examine the nature of the literacy challenge in Indiana. We address the nature of the challenge in five steps:

- First, we examine early literacy achievement in Indiana, considering how Indiana compares to other states. This review provides a perspective on early literacy challenges in Indiana compared to other states.
- Second, we examine variation in literacy achievement across different types of school corporations in Indiana. This analysis provides insight into the types of school districts that face the most severe challenges.
- Third, we examine special education referrals, focusing on both national comparisons and trends in the state. This analysis provides insight into how early literacy interventions might reduce the costs of other educational services.
- Fourth, we examine trends in student retention rates in Indiana. These analyses also provide insight into a potential benefit of investing in early literacy intervention.
- Fifth, we examine patterns of kindergarten attendance and early childhood education in the state and nationally. We take this step both because some of the funded early interventions are focused on these areas and because there is a substantial research base to support arguments that interventions in these areas can influence student achievement by third or fourth grade.

Student Literacy Achievement

Interventions are usually aimed at addressing problems. However, when early childhood literacy is considered, Indiana does not face the same problems that most other states do. When fourth grade literacy achievement Indiana is compared to other states on the National Assessment of Education Progress (NAEP) fourth grade literacy test, some interesting patterns emerge (see Table 3.1).

Table 3.1

Average Proficiency in Reading for 4th Graders in Public Schools,[1] by Selected Characteristics, Region, and State: 1994

REGION AND STATE	AVE.	RACE/ETHNICITY			SEX		PARENTAL EDUCATION			
		White	Black	Hispanic	Male	Female	Did not finish high school	Graduated high school	Some education after high school	Graduated college
United States	212	223	186	188	207	218	188	206	222	222
REGION										
Northeast	212	224	184	191	207	216		202	222	221
Southeast	208	219	188	184	202	215	186	207	222	216
Central	218	225	182	199	12	225		215	221	226
West	212	222	186	186	207	217	188	201	221	223
STATE										
Alabama	208	220	188	178	203	213	197	201	217	217
Arizona	206	220	183	188	201	211	189	200	219	218
Arkansas	209	218	183	192	204	213	196	203	221	215
California	197	211	182	174	194	200	166	191	207	207
Colorado	213	222	191	193	209	218	192	213	220	222
Connecticut	222	234	190	190	218	226	204	209	234	231
Delaware	206	215	188	190	200	212	185	202	217	214
Florida	205	218	183	189	199	210	187	195	219	212
Georgia	207	222	185	184	201	212	185	199	219	217
Hawaii	201	219	189	185	194	208	192	194	215	208
Indiana	**220**	**225**	**193**	**201**	**216**	**223**	**198**	**216**	**230**	**229**
Iowa	223	225	186	204	219	227	211	219	232	229
Kentucky	212	215	190	196	206	217	195	212	222	218
Louisiana	197	213	180	175	193	200	188	196	209	200
Maine	228	229		218	225	231	214	225	237	236
Maryland	210	223	185	197	205	214	195	202	215	217
Massachusetts	223	231	199	194	221	226	206	212	230	232
Minnesota	218	222	173	202	214	223		212	220	229
Mississippi	202	220	187	181	196	207	192	199	213	207
Missouri	217	223	192	200	213	221	199	216	227	225
Montana	222	226		208	218	227	211	219	227	230
Nebraska	220	224	191	205	216	224		215	232	231

Table 3.1 (continued)

Average Proficiency in Reading for 4th Graders in Public Schools,[1] by Selected Characteristics, Region, and State: 1994

REGION AND STATE	AVE.	RACE/ETHNICITY			SEX		PARENTAL EDUCATION			
		White	Black	Hispanic	Male	Female	Did not finish high school	Graduated high school	Some education after high school	Graduated college
New Jersey	219	231	193	200	216	222	193	209	225	230
New Mexico	205	219	196	196	201	208	188	200	220	215
New York	212	226	191	193	207	216	196	208	224	220
North Carolina	214	225	193	189	209	220	195	204	226	223
North Dakota	225	228		212	221	2330		217	232	233
Pennsylvania	215	224	180	187	211	220	187	210	221	224
Rhode Island	220	226	197	195	215	225	203	217	230	228
South Carolina	203	219	184	182	199	208	189	193	216	213
Tennessee	213	220	188	196	208	217	200	213	225	219
Texas	212	227	191	198	210	214	195	207	224	222
Utah	217	221		199	195	213	222	211	225	226
Virginia	213	224	192	206	208	219	196	207	220	221
Washington	213	217	198	190	209	217	197	209	216	223
West Virginia	213	215	202	192	208	218	196	213	226	221
Wisconsin	224	228	197	203	221	227	212	226	228	233
Wyoming	221	224		209	218	224	203	215	230	228
OTHER										
DOD Overseas Schools	218	224	205	211	213	223		209	226	223
Guam	181	192	171	171	172	190	164	176	189	185

Notes: [1] As measured by the National Assessment of Educational Progress (NAEP). Forty-one states and Guam participated in the test, but the sample size in two states was insufficient to permit a reliable estimate.

Source: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, 1994.

First, Indiana ranked very high in 1994 in fourth grade achievement on NAEP language proficiency. This means that Indiana faces a less severe challenge than most other states in terms of improving achievement. Indeed, Indiana's average NAEP score for fourth grade reading is higher than the average for any region in the country.

Second, the high achievement in Indiana is not limited to students from advantaged backgrounds. Minority students in Indiana (Black and Hispanic students) achieved several points higher on NAEP language proficiency than the national average for their ethnic groups, while White students achieved only two points higher. Further, at every level of parent education, students from Indiana achieved scores substantially higher than the national average. This suggests that factors other than the ethnic or socio-economic composition of the populations contribute to the higher achievement.

Thus, in a comparative sense, Indiana does well in early childhood literacy achievement at the end of early primary education. Indeed, within every population, there is variation in achievement. To untangle the reasons why the Early Literacy Intervention Grant Program was really needed in Indiana, we need to examine the specific ways the educational system addresses the early literacy needs of students in Indiana. Even though Indiana may compare well to most of states on the average reading score at the end of third grade, there is still a need to intervene to improve the chances that all children will be able to meet this challenge.

Differences Across School Corporations

One way to view the locus of the literacy challenge in Indiana is to compare achievement across different types of school corporations. There is substantial diversity in literacy achievement in school corporations across the state (see Table 3.2). The metropolitan school corporations, as a group, face the greatest early literacy challenge, followed by rural and town corporations. Suburban school corporations have the highest average score on ISTEP+ reading in the third grade, while metropolitan corporations have the lowest average scores.

Table 3.2
ISTEP+ Reading Achievement: Means Scores by Type of Corporation, 1996–1997

	METRO	SUBURBAN	TOWN	RURAL
Number of Schools	367	258	138	340
Mean	55.64	61.03	58.19	58.94
Standard Deviation	8.20	6.21	6.44	4.75

Data source: Indiana Department of Education, 1998.

Thus, like most states, *Indiana faces a greater literacy challenge in its metropolitan schools than in other types of schools*. However, there is also a difference for town and rural corporations versus suburban corporations. These differences do not mean that there are not individuals in need of intervention in most early primary classrooms across all types of districts, but rather that there are more serious problems in some types of corporations than in others.

However, not all children who need literacy interventions are located in urban schools, or even in schools located in towns or rural areas. Indeed, children in all types of school corporations can face special difficulties learning to read. Thus, *there is a need to provide opportunities for early interventions in all types of school corporations in Indiana*, as there is across the nation.

Student Special Education Referral Rates

The percentage of students who are referred to special education and/or who are retained in their grade levels is an indicator of the need for early literacy intervention. Research on Head Start (Karoly, Greenwood, Everingham, Houbé, Kilburn, Rydell,

Sanders, & Chiesa, 1998; Weikart, 1989) and Reading Recovery® (Lyons, 1994) indicates that these programs can influence a reduction in special education referral and retention. Further, since Reading Recovery® is aimed directly at improving reading for low-achieving early primary students and Head Start results in improvement in language achievement in early primary education, the evidence relative to these programs alone supports the notion that improved literacy achievement may reduce referrals and retention. Thus, improvements in early literacy can reduce placements in more costly special education programs or the extra costs of retaining students in school for an extra year or more.

In Indiana, a 2.2% increase in the placement of students in special education has occurred (Table 3.3). Specifically, the number of students referred to special services because of a learning disability increased by 22.9% between 1987-88 and 1995-96. This is comparable to the less than 30% increase nationally. These referrals increase the per student costs of educating children in Indiana.

Table 3.3
Trends in Placement
Number and Change in Number of Children Age 6-21 with Specific Learning Disabilities Served under IDEA

STATE	NUMBER SERVED			CHANGE IN NUMBER SERVED		PERCENTAGE CHANGE IN NUMBER SERVED	
	1987-88	1994-95	1995-96	1987-88-1995-96	1994-95-1995-96	1987-88-1995-96	1994-95-1995-96
Alabama	88,136	90,673	89,672	1,536	-1,001	1.74	-1.10
Alaska	10,927	15,484	15,589	4,662	105	42.66	0.68
Arizona	50,499	65.166	68,228	17,729	3,062	35.11	4.70
Arkansas	43,293	45,736	46,360	3,067	624	7.08	1.36
California	380,796	492,028	510,875	130,079	18,847	34.16	3.83
Colorado	48,153	61,284	62,697	14,544	1,413	30.20	2.31
Connecticut	58,957	66,831	68,867	9,910	2,036	16.81	3.05
Delaware	13,042	13,414	13,719	677	305	5.19	2.27
District of Columbia	6,571	6,289	6,671	100	182	1.52	6.07
Florida	180,731	269,431	283,104	102,373	13,673	56.64	5.07
Georgia	86,956	116,423	121,728	34,772	5,305	39.99	4.56
Hawaii	11,195	13,938	14,723	3,528	785	31.51	5.63
Idaho	18,079	19,888	20,735	2,656	847	14.69	4.26
Illinois	218,194	226,266	230,938	12,744	4,672	5.84	2.06
Indiana	**98,993**	**117,511**	**121,701**	**22,708**	**4,190**	**22.94**	**3.57**
Iowa	51,323	58,355	60,410	9,087	2,055	17.71	3.52
Kansas	39,157	45,805	47,467	8,310	1,662	21.22	3.63
Kentucky	68,152	66,678	68,206	54	1,528	0.08	2.29
Louisiana	62,355	79,053	81,471	19,116	2,418	30.66	3.06
Maine	25,298	27,342	28,319	3,021	977	11.94	3.57
Maryland	83,693	87,719	91,377	7,684	3,658	9.18	4.17
Massachusetts	131,729	142,403	142,955	11,226	552	8.52	0.39
Michigan	147,108	165,169	170,527	23,419	5,358	15.92	3.24

Table 3.3 (continued)
Trends in Placement
Number and Change in Number of Children Age 6-21 with Specific Learning Disabilities Served under IDEA

STATE	NUMBER SERVED			CHANGE IN NUMBER SERVED		PERCENTAGE CHANGE IN NUMBER SERVED	
	1987-88	1994-95	1995-96	1987-88-1995-96	1994-95-1995-96	1987-88-1995-96	1994-95-1995-96
Mississippi	53,491	59,041	60,197	6,706	1,156	12.54	1.96
Missouri	94,792	108,851	113,012	18,220	4,161	19.22	3.82
Montana	13,547	16,044	16,598	3,051	554	22.52	3.45
Nebraska	27,775	34,715	35,996	8,221	1,281	29.60	3.69
Nevada	13,702	23,463	25,036	11,334	1,573	82.72	6.70
New Hampshire	15,571	21,758	22,985	7,414	1,227	47.61	5.64
New Jersey	157,332	175,970	180,423	23,091	4,453	14.68	2.53
New Mexico	29,950	41,248	43,015	13,065	1,767	43.62	4.28
New York	266,216	329,352	346,305	80,089	16,953	30.08	5.15
North Carolina	102,619	124,380	130,407	27,788	6,027	27.08	4.85
North Dakota	11,066	11,057	11,186	120	129	1.08	1.17
Ohio	190,312	205,447	209,325	19,013	3,878	9.99	1.89
Oklahoma	58,378	65,839	66,416	8,038	577	13.77	0.88
Oregon	45,342	54,589	58,925	13,583	4,336	29.96	7.94
Pennsylvania	190,023	187,721	190,343	320	2,622	0.17	1.40
Puerto Rico	34,760	37,179	38,892	4,132	1,713	11.89	4.61
Rhode Island	17,986	21,562	22,739	4,753	1,177	26.43	5.46
South Carolina	67,993	72,722	76,203	8,210	3,481	12.07	4.79
South Dakota	12,524	13,528	13,336	812	-192	6.48	-1.42
Tennessee	91,643	113,928	116,310	24,667	2,382	26.92	2.09
Texas	285,775	389,893	409,281	123,506	19,388	43.22	4.97
Utah	41,591	46,650	47,602	6,011	952	14.45	2.04
Vermont	10,940	9,536	10,031	-909	495	-8.31	5.19
Virginia	96,444	123,420	128,475	32,031	5,055	33.21	4.10
Washington	64,469	91,653	94,325	29,856	2,672	46.31	2.92
West Virginia	42,783	40,854	41,645	-1,138	791	-2.66	1.94
Wisconsin	67,054	89,145	92,868	25,814	3,723	38.50	4.18
Wyoming	9,384	10,655	10,993	1,609	338	17.15	3.17
50 States, D.C., & P.R.	4,110,690	4,896,303	5,066,738	956,048	170,435	23.36	3.49

Source: U.S. Department of Education, 1997, p. A-20.

Further, when placement in special education (Individuals with Disabilities Education Act or IDEA) and Title I (of the Elementary and Secondary Education Act or ESEA) for Indiana is compared to the national average, we find that Indiana is slightly higher than average in both kinds of referrals. Nationally, 10.31% of children ages 6–17 were placed in special education, while 11.32 percent had these placements in Indiana (Table 3.4).

Interestingly, Indiana was slightly lower than the national average in the percentage of students with specific learning disabilities (4.78% in Indiana, compared to a national average of 5.27%) and slightly higher in speech and language impairments (3.58% compared to 2.28%) and mental retardation (1.81% compared to 1.11%). Thus, while Indiana has higher than average language achievement at the end of fourth grade, students in Indiana are at least as likely to be placed in some type of specialized learning situation.

Table 3.4

Percentage (Based on Estimated Enrollment) of Children Age 6-17 Served Under IDEA, Part B and Chapter 1 of ESEA (SOP) by Disability During the 1993–94 School Year

STATE	ALL DISABILITIES	SPECIFIC LEARNING DISABILITIES	SPEECH OR LANGUAGE IMPAIRMENTS	MENTAL RETARDATION
Alabama	11.69	4.92	2.38	3.09
Alaska	11.76	7.38	2.59	0.42
Arizona	8.82	5.19	1.74	0.73
Arkansas	9.75	5.42	1.49	2.16
California	8.73	5.37	1.99	.42
Colorado	9.09	5.12	1.40	0.38
Connecticut	12.28	6.52	2.12	0.69
Delaware	11.94	7.55	1.50	1.44
District of Columbia	7.27	4.40	0.44	1.22
Florida	12.17	5.57	3.40	1.34
Georgia	8.65	2.82	1.94	1.84
Hawaii	7.18	3.93	1.21	0.81
Idaho	8.09	4.85	1.44	1.08
Illinois	11.51	5.86	2.88	1.07
Indiana	**11.32**	**4.78**	**3.58**	**1.81**
Iowa	10.77	5.06	1.71	2.06
Kansas	9.18	4.10	2.25	1.03
Kentucky	9.96	3.38	2.87	2.60
Louisiana	8.95	4.05	2.09	1.33
Maine	11.88	5.47	2.81	0.60
Maryland	10.64	5.31	3.01	0.62
Massachusetts	14.95	9.26	2.40	1.35
Michigan	9.44	4.57	2.12	1.01
Minnesota	9.25	4.08	1.66	1.05
Mississippi	11.00	5.76	3.46	1.31
Missouri	11.47	6.11	2.65	1.25
Montana	9.55	5.78	1.93	0.66
Nebraska	11.21	4.99	2.93	1.53
Nevada	9.01	5.65	1.82	0.52
New Hampshire	10.74	5.99	2.36	0.38
New Jersey	14.20	7.72	4.06	0.32

Table 3.4 (continued)

Percentage (Based on Estimated Enrollment) of Children Age 6-17 Served Under IDEA, Part B and Chapter 1 of ESEA (SOP) by Disability During the 1993–94 School Year

STATE	ALL DISABILITIES	SPECIFIC LEARNING DISABILITIES	SPEECH OR LANGUAGE IMPAIRMENTS	MENTAL RETARDATION
New Mexico	11.90	6.05	3.54	0.51
New York	10.81	6.36	1.27	0.58
North Carolina	10.40	4.73	2.24	1.83
North Dakota	8.86	4.48	2.64	0.88
Ohio	10.58	4.04	2.80	2.31
Oklahoma	10.62	5.52	2.38	1.85
Oregon	10.60	5.63	2.53	0.71
Pennsylvania	10.08	4.76	2.46	1.47
Puerto Rico	5.49	2.12	0.45	2.16
Rhode Island	13.50	8.60	2.54	0.59
South Carolina	10.74	4.64	2.80	2.11
South Dakota	8.43	4.28	2.32	0.81
Tennessee	11.88	6.29	2.83	1.36
Texas	9.75	5.79	1.77	0.56
Utah	9.63	5.50	1.61	0.62
Vermont	8.75	4.18	1.79	1.11
Virginia	10.68	5.52	2.38	1.10
Washington	9.03	4.26	1.72	0.74
West Virginia	11.80	5.31	3.39	2.11
Wisconsin	9.77	3.19	1.89	0.46
Wyoming	9.97	5.24	2.80	0.53
50 States, D.C., & P.R.	10.31	5.27	2.28	1.11

Source: National Center for Educational Statistics, 1994, p. A-36.

This supports the argument that Indiana, like other states, faces an early literacy challenge. Given that a substantial percentage of the students in Indiana schools were referred to special education for learning difficulties, *it is possible that improving early literacy achievement by students in at-risk situations could reduce referrals to special education in Indiana and, thus, reduce the costs of these services.* This issue merits further attention in efforts to design interventions aimed at improving early literacy.

Retention Rates

The percentage of students who are retained in their grade levels is an indicator of the need for early literacy intervention. Research on Head Start (Karoly et al., 1998; Weikart, 1989) and Reading Recovery® (Lyons, 1994) indicates that these programs can influence a reduction in retention, as well as reductions in special education referrals.

When we examine trends in retention and average daily membership (Table 3.5), we find that a very small percentage of the average daily membership in Indiana schools is retained each year. The percentage has ranged between 1.8% in 1991–92 to 1.4% in 1996–97 and 1994–95. These trends indicate that there is little room for further reduction in retention in Indiana, at least at the present time. Therefore, reduction in retention rates does not appear to be central to the early literacy challenge in Indiana.

Table 3.5
Trends in the Percentage of Students Retained in Indiana Education

YEAR	TOTAL RETAINED	AVERAGE DAILY MEMBERSHIP	PERCENT RETAINED
1997-98	14,422	953,260.5	1.5
1996-97	13,291	947,983.0	1.4
1995-96	15,762	941,842.5	1.7
1994-95	13,310	934.292.0	1.4
1993-94	14,045	930,771.0	1.5
1992-93	16,698	928,896.0	1.8
1991-92	16,990	925,092.0	1.8

Source: Information provided by the Indiana Department of Education.

While the overall retention rates are quite low in Indiana, it is possible that on some early primary grade levels, that retention is problematic. A breakdown of retention rates by grade level proved difficult to attain. However, we think there may be ways of classifying students that essentially disguise retention, especially for kindergarten and early primary grades. Specifically while in some school districts there may be a high rate of retention in kindergarten, others may find ways to move students with early reading challenges into other types of programs that have full-day funding. For example, corporations may create special "developmental" or "transitional" first grades classes that essentially disguise retention. Depending on how these terms are defined locally, it might be possible for school corporations to extend the time in early primary without reporting retention per se.

Thus, retention rates are a measure that merit further exploration in the second year study of the impact of the Early Literacy Intervention Grant Program. However, a more systematic method of collecting and analyzing information of retention in early primary grades would be needed.

Kindergarten and Early Childhood Programs

In addition to intervening during the early primary grades, which is the focus of most early intervention programs, it is possible that improvements in early childhood education and/or kindergarten can improve literacy achievement and reduce referrals to special education.

There is evidence to suggest that the challenge in Indiana could be related to these factors. When we compare attendance in preschool, kindergarten, and first grade in

Indiana to attendance in other states, we find that Indiana ranks low nationally in kindergarten enrollment and preschool enrollment (Table 3.6). A review of this information points to three potential concerns.

Table 3.6
Early Schooling
Fall 1995 Enrollment By Grade and State

COLUMN	A	B	C	D	E
REGION	PRE-K 1993	A÷C	K-1994	C÷E	1ST 1995
U.S. Total	545,135	15.83%	3,444,168	93.82%	3,670,903
Alabama	8,264	14.32%	57,723	93.56%	61,694
Alaska	2,787	27.03%	10,309	98.71%	10,444
Arizona	3,164	5.31%	59,545	92.73%	64,215
Arkansas	1,248	3.50%	35,620	97.94%	36,369
California	59,954	13.38%	448,237	96.15%	466,167
Colorado	7,249	14.89%	48,673	92.24%	52,767
Connecticut	6,216	14.29%	43,511	94.65%	45,969
Delaware	565	7.51%	7,523	87.69%	8,579
D.C.	5,216	68.38%	7,628	96.18%	7,931
Florida	34,793	20.23%	172,001	95.46%	180,182
Georgia	5,534	5.11%	108,398	97.70%	110,955
Hawaii	532	3.39%	15,678	97.91%	16,013
Idaho	1,389	8.05%	17,260	94.52%	18,260
Illinois	42,359	28.95%	146,314	94.68%	154,534
Indiana	**3,960**	**5.53%**	**71,588**	**89.17%**	**80,279**
Iowa	5,430	14.51%	37,434	103.68%	36,107
Kansas	2,432	7.27%	33,445	94.11%	35,538
Kentucky	15,732	35.60%	44,191	93.53%	47,250
Louisiana	12,857	21.18%	60,705	95.27%	63,719
Maine	1,036	6.25%	16,569	96.05%	17,250
Maryland	17,984	28.85%	62,341	92.57%	67,348
Massachusetts	13,178	16.94%	77,777	97.75%	79,565
Michigan	11,704	8.58%	136,353	101.37%	134,513
Minnesota	6,656	10.58%	62,908	99.43%	63,268
Mississippi	2,197	5.70%	38,528	90.63%	42,510
Missouri	13,950	20.94%	66,607	95.62%	69,659
Montana	483	4.09%	11,820	94.42%	12,519
Nebraska	3,577	16.44%	21,752	100.02%	21,748
Nevada	1,237	6.05%	20,462	87.82%	23,301
New Hampshire	1,292	15.52%	8,325	46.32%	17,973
New Jersey	9,225	9.99%	92,316	90.05%	102,521
New Mexico	1,933	8.04%	24,055	91.98%	26,152

Table 3.6 (continued)
Early Schooling
Fall 1995 Enrollment By Grade and State

COLUMN	A	B	C	D	E
REGION	PRE-K 1993	A÷C	K-1994	C÷E	1ST 1995
North Carolina	8,469	8.69%	97,508	95.65%	101,945
North Dakota	615	7.09%	8,677	98.33%	8,824
Ohio	17,210	12.18%	141,284	95.23%	148,354
Oklahoma	5,456	11.77%	46,355	85.56%	54,178
Oregon	837	2.15%	38,930	92.80%	41,952
Pennsylvania	4,181	3.16%	132,132	90.45%	146,077
Rhode Island	465	4.35%	10,701	77.16%	13,868
South Carolina	7,244	15.46%	46,859	83.76%	55,944
South Dakota	612	5.76%	10,618	99.23%	10,700
Tennessee	9,542	13.36%	71,413	93.95%	76,015
Texas	120,446	44.27%	272,065	89.52%	303,928
Utah	2,690	7.97%	33,750	96.82%	34,857
Vermont	2,024	25.17%	8,040	96.05%	8,371
Virginia	3,186	3.74%	85,160	95.49%	89,183
Washington	5,087	7.10%	71,637	94.61%	75,721
West Virginia	3,981	17.79%	22,377	97.82%	22,875
Wisconsin	17,270	27.90%	61,898	95.86%	64,574
Wyoming			6,929	97.56%	7,102

Source: Adapted from Snyder, Hoffman, & Geddes, 1997, p.54; and Snyder, Hoffman, & Geddes, 1996, p.56.

First, enrollment in public pre-kindergarten programs in Indiana is much lower, compared to the number of students enrolled in kindergarten, than in most other states. In 1993, the pre-kindergarten enrollment in public programs in Indiana was 3,960 students, which represented less than six percent of the kindergarten enrollment during the next school year. Few states had lower percentages of kindergarten students who had attended public pre-kindergarten programs. Thus, the relatively low participation in pre-kindergarten might contribute to the high percentage of students who are eventually referred to special education. Indeed, there is a strong body of research that indicates that Head Start and other pre-kindergarten programs for low-income students can reduce the subsequent referral to special programs (Karoly et al., 1998).

Second, the percentage of first grade students who attended kindergarten is also low in Indiana compared to most other states. There were 71,588 students enrolled in kindergarten in fall 1994 and 80,182 first grade students in fall of 1995. Less than nine out of ten first graders had attended public kindergarten programs the prior year. This is one of the lowest ratios of kindergarten to first grade attendance in the nation. Thus, it is also possible that increasing the percentage of students who attend kindergarten could reduce referrals to special education programs.

Third, kindergarten or preschool programs are not as well developed in Indiana as in other states. A comparison of policies across states (Table 3.7) provides some insight into these issues.[13]

Table 3.7

Ages for Compulsory School Attendance, Special Education Services for Students, Policies for Kindergarten Programs, and Year-Round Schools by State: 1997 and 1995

STATE	COMPULSORY ATTENDANCE, 1997	COMPULSORY SPECIAL EDUCATION SERVICES, 1997	YEAR-ROUND SCHOOLS, 1995		PROVISION OF KINDERGARTEN EDUCATION, 1995			
			Has policy on year-round schools	Has districts with year-round schools	School districts required to offer		Attendance Required	
					Half day	Full day	Half day	Full day
Alabama	7 to 16	3 to 21		X		X		
Alaska	7 to 16	3 to 21		X				
Arizona	6 to 16	3 to 21	X	X	X		X	
Arkansas	5 to 17	3 to 21	X	X		X		X
California	6 to 18	3 to 21	X	X	X			
Colorado	7 to 16	3 to 20		X				
Connecticut	7 to 16	3 to 20			X			
Delaware	5 to 16	3 to 20			X			
District of Columbia	5 to 18	3 to 20				X		X
Florida	6 to 16	3 to 20	X	X		X		X
Georgia	7 to 16	3 to 21		X		X		
Hawaii	6 to 18	3 to 20		X				
Idaho	7 to 16	3 to 20	X	X				
Illinois	7 to 16	3 to 20	X	X	X			
Indiana	**7 to 18**	**3 to 21**		**X**	**X**			
Iowa	6 to 16	Birth to 20						
Kansas	7 to 16	3 to 20						
Kentucky	6 to 16	3 to 20		X	X			
Louisiana	7 to 17	3 to 21	—	—	—	—	—	—
Maine	7 to 17	3 to 19						
Maryland	5 to 16	Birth to 20						
Massachusetts	6 to 16	3 to 21						
Michigan	6 to 16	Birth to 25						

[13] The IDOE recently completed a report on this subject, entitled "Indiana Department of Education Kindergarten Attendance Survey." The IDOE survey asked questions about age of entry in kindergarten, whether attendance was mandatory, and so forth. The results of these two surveys appear reasonably consistent. Most states reported comparable information on the two surveys. However, since different questions were asked and reported and in the timing of the questions, it is difficult to determine the reasons for the few inconsistencies that were evident. For example, Delaware reported the state had mandatory attendance on the IDOE survey, but not on the NCES survey (Table 3.7). This difference may be due to a change in policy in state or a difference in reporting.

Table 3.7 (continued)

Ages for Compulsory School Attendance, Special Education Services for Students, Policies for Kindergarten Programs, and Year-Round Schools by State: 1997 and 1995

STATE	COMPULSORY ATTENDANCE, 1997	COMPULSORY SPECIAL EDUCATION SERVICES, 1997	YEAR-ROUND SCHOOLS, 1995		PROVISION OF KINDERGARTEN EDUCATION, 1995			
			Has policy on year-round schools	Has districts with year-round schools	School districts required to offer		Attendance Required	
					Half day	Full day	Half day	Full day
Missouri	7 to 16	3 to 20		X	X		X	
Montana	7 to 16	3 to 18			X			
Nebraska	7 to 16	Birth to 20	X					
Nevada	7 to 17	3 to 21		X	X			
New Hampshire	6 to 16	3 to 20						
New Jersey	6 to 16	3 to 21			X			
New Mexico	5 to 18	3 to 21		X			X	
New York	6 to 16	3 to 21	X	X				
North Carolina	7 to 16	3 to 20	X	X				
North Dakota	7 to 16	3 to 20			X	X	X	X
Ohio	6 to 18	3 to 21		X	X		X	
Oklahoma	5 to 18	3 to 21	X	X	X			
Oregon	7 to 18	3 to 21		X	X			
Pennsylvania	8 to 17	3 to 20			X			
Rhode Island	6 to 16	3 to 20			X		X	
South Carolina	5 to 17	3 to 21		X	X		X	
South Dakota	6 to 16	3 to 21	X		X	X		
Tennessee	7 to 17	3 to 21		X	X		X	
Texas	6 to 17	3 to 21	X	X	X	X		
Utah	6 to 18	3 to 21	X	X	X		X	
Vermont	7 to 16	3 to 21						
Virginia	5 to 18	3 to 21		X	X	X	X	X
Washington	8 to 18	3 to 20		X				
West Virginia	6 to 16	3 to 20	X		X			
Wisconsin	6 to 18	3 to 20						
Wyoming	7 to 16	3 to 20			X			

Source: Snyder, Hoffman, & Geddes, 1997, p. 147.

First, Indiana is one of 22 states with compulsory attendance at age 7. Two states also have compulsory attendance by age eight. The other states have lower ages of compulsory attendance. When we compare the age of compulsory attendance (Table 3.7) to average scores on the NAEP for fourth graders (Table 3.1), we find that most states with compulsory attendance at age seven have higher than average scores, while most states with compulsory attendance at age five have lower than average achievement.

Second, Indiana is one of 28 states that require half-day kindergarten to be offered. Another 10 states require full-day kindergarten to be offered. Actual attendance in half-day kindergarten is required in only 10 states; full-day attendance is required in eight

states. These figures are representative of the complex pattern of kindergarten opportunity that exists nationally.

It is possible that changes in the provision of full-day kindergarten could induce more parents to send their children to kindergarten, which might help reduce early literacy problems in Indiana. It is also possible that offering full-day kindergarten in addition to half-day kindergarten could improve early literacy achievement by families who make this choice. Thus, *innovations in kindergarten could lead to improvement in early literacy outcomes in Indiana*. Interestingly, seven full-day kindergarten projects were funded through ELIGP, which provides opportunity to examine the implementation of these projects in the current report.

Finally, the percentage of children having the opportunity to attend preschool is extremely low in Indiana. Because there is substantial evidence that early learning opportunities can improve early literacy, reduce special education referrals, and reduce retention for children in at-risk situations, it is reasonable to speculate that *improvements in kindergarten and/or early childhood education could enhance early literacy achievement in Indiana*. Fortunately, we also have the opportunity to study the implementation of a few of these programs as part of the current study.

Understanding the Literacy Challenge in Indiana

While average early primary literacy achievement is high in Indiana compared to other states, there is room for improvement. First, metropolitan school districts face special challenges in Indiana, as they do nationally. Further, it is possible that improvements in early literacy during the early primary years may reduce special education referrals, a development that would result in savings to the state. In addition, it is possible that expansion in opportunities to attend kindergarten and preschool also could improve early literacy outcomes and reduce special education referrals in Indiana.

Funding Literacy Challenge

Given that funding in the first year of the Early Literacy Intervention Grant Program went to nearly all corporations that submitted proposals, rather than being awarded according to a set of criteria, the distribution of projects and funds reflects which corporations perceived that they needed special funding. Nevertheless, the question of whether funding went to corporations facing a greater early literacy challenge still merits examination. Specifically, we consider the question: *were students in corporations with lower-than-average literacy achievement more likely to receive support through the new program*? This question is important because it provides a further indication of whether schools with need for interventions were more likely to develop a proposal for an early literacy intervention project.

Student reading scores provide another indicator of situations in which early intervention is needed. When we compare the third grade ISTEP+ reading scores for the funded and non-funded school corporations (Table 3.8), we found that funded schools had slightly (though significant) lower average scores than the non-funded school

corporations. This suggests that funds are reaching schools with more students in at-risk situations.[14]

When we compared funded and non-funded corporations in each demographic type (Table 3.9) on third grade ISTEP+ reading scores, we found that within suburban, town, and rural corporations, funded corporations had lower average scores than non-funded corporations, and metro corporations had virtually the same average score. This means that the supplemental funding provided by the Early Literacy Intervention Program reached districts with slightly higher need for early literacy intervention projects.

Table 3.8
ISTEP+ Reading Mean NCE, Grade 3
All Funded vs. Non-funded Elementary Schools

	FUNDED	NON-FUNDED
Number	245	861
Mean	57.23	58.54
Standard Deviation	7.25	6.79

Data source: Indiana Department of Education, 1998.

Table 3.9
ISTEP+ Reading Mean NCE, Grade 3
All Funded vs. Non-funded Elementary Schools by Demographic Type

	METRO	SUBURBAN	TOWN	RURAL
FUNDED				
Number	79	71	43	52
Mean	55.73	59.74	55.74	57.29
Standard Deviation	8.28	7.46	7.46	4.38
NON-FUNDED				
Number	288	187	95	288
Mean	55.62	61.52	59.30	59.23
Standard Deviation	6.20	6.61	6.03	4.76
ALL				
Number	367	258	138	340
Mean	55.64	61.03	58.19	58.94
Standard Deviation	8.20	6.21	6.44	4.75

Data source: Indiana Department of Education, 1998.

Further, when the average third grade ISTEP+ reading scores of corporations with funded Reading Recovery® projects were compared to the average scores of the non-

[14] We used analysis of variance to test significance of differences. These analyses are available on request.

funded corporations, a similar pattern was evident (Table 3.10). Within each demographic type, school corporations with funded Reading Recovery® projects had lower scores than the average for non-funded corporations. This indicates that Reading Recovery® project funds were reaching school corporations with a need for early intervention (Table 3.11). However, Reading Recovery® funds did not necessarily reach the urban corporations with the highest need, even though high-need urban corporations received funds.

Table 3.10
ISTEP+ Reading Mean NCE, Grade 3
Reading Recovery® vs. Non-funded Elementary Schools by Demographic Type

	METRO	SUBURBAN	TOWN	RURAL
READING RECOVERY®				
Number	53	34	15	30
Mean	54.56	55.71	57.27	56.67
Standard Deviation	7.36	6.18	7.74	3.74
NON-FUNDED				
Number	288	187	95	288
Mean	55.62	61.52	59.30	59.23
Standard Deviation	6.20	6.61	6.03	4.76

Data source: Indiana Department of Education, 1998

Finally, the pattern was also partially confirmed by a comparison within each demographic type of the average third grade ISTEP+ reading score for school corporations in the OELI category with the scores for non-funded corporations (Table 3.11). Within town and rural corporations, the average ISTEP+ reading score for third graders was slightly lower in corporations with OELI projects than it was in non-funded corporations. However, in metro and suburban corporations, the reading scores were higher for funded than for non-funded corporations. This illustrates that some of the highest need urban corporations did not prepare applications for funds for OELI.

Overall, this analysis indicates that most early intervention projects were funded in school corporations where the need for funding was greater. This means that corporations that applied for funds during the first year appear to have a greater need, relative to the average test scores of similarly classified corporations, than corporations that did not apply. However, the higher reading scores for OELI projects in metro and suburban corporations suggest that the targeting of future awards can be improved. The major concern that surfaces from this set of analyses of ISTEP+ reading scores is that the highest need urban districts did not receive funding in either Reading Recovery® or OELI. Therefore steps should be taken to ensure the funds for the program reach corporations and schools in need of resources for literacy intervention.

Table 3.11
ISTEP+ Reading Mean NCE, Grade 3
OELI Projects vs. Non-Funded Elementary Schools by Demographic Type

	METRO	SUBURBAN	TOWN	RURAL
OELI PROGRAMS				
Number	30	42	36	24
Mean	57.69	62.74	55.40	57.95
Standard Deviation	9.06	6.52	6.52	4.91
NON-FUNDED				
Number	288	187	95	288
Mean	55.62	61.52	59.30	59.23
Standard Deviation	6.20	6.61	6.03	4.76

Data source: Indiana Department of Education, 1998.

Thus, we return to our question: *were students in corporations with lower than average literacy achievement more likely to receive support through the new program*? The funded corporations in the state had lower average scores on third grade reading than did the non-funded corporations, indicating that on average, the program was well targeted. Similarly, for the Reading Recovery® program, funded corporations of all types had lower reading scores than non-funded corporations. Further, the funded OELI corporations in metropolitan and suburban areas had higher average scores than non-funded corporations. However, the reverse was true for town and rural corporations. Thus, in the funding for the OELI portion of the program could be better targeted on high-need corporations in the future.[15]

Conclusion

Improving early literacy achievement for early primary students in at-risk situations represents an important educational challenge in Indiana. Having the ability to read and to comprehend material written on grade level, as well as to think critically about the meaning of this material, are necessary skills to acquire by third grade. Indeed, these skills are an essential foundation for learning through high school and beyond. While the average achievement of early primary students is higher in Indiana than in most other states, there is still room for improvement.

In particular, Indiana has a substantial percentage of students needing specialized services. In the middle 1990s, more than eleven percent of the Indiana students were placed in special education or other specialized services. Intervening to improve early literacy holds the potential to improve the learning opportunities for at least some of these students, as well as the potential to reduce the need for costly, specialized services.

[15] Further, the IDOE considered type of corporation as part of its funding criteria for the 1998-99 school year when it had far more applications than it could fund. Thus, we would expect to find this pattern to have be changed in the current school year.

In Indiana, nearly all of the corporations that developed proposals for the first year of the Early Intervention Grant Program were funded. Within some types of corporations, funds for the Early Literacy Intervention Grant Program tended to go to corporations with higher rather than lower achievement. This means that within the different types of corporations, those with greater need were more likely to apply for funds. Yet, there is a need to improve the targeting of funding for the ELIGP, to ensure they reach corporations with high need.

However, in addition to funding corporations with the need to improve early literacy, funded projects should be of a type that is likely to improve literacy for children who are at risk. Indeed, since Title I and other specialized funds already target school corporations with a high percentage of at-risk students, it remains possible that corporations with the greatest need for intervention did apply for funds. Therefore, it is important to examine the features of programs that were implemented to see if they have a chance of improving literacy outcomes in Indiana.

Chapter IV

Reading Recovery®

Reading Recovery® is an internationally acclaimed early literacy intervention originally designed by Marie Clay (1979). The program originated in New Zealand and was developed in the United States through leadership provided at the national center located at Ohio State University. In Indiana, a small number of teachers received their training out-of-state before a center was started in Indiana. Purdue University started training teacher leaders at its state center in 1993, and it is rapidly gaining international recognition. Below we describe the program features and outcomes of Reading Recovery®, summarize the research base, examine the implementation of Reading Recovery® in Indiana, and review the expected effects of Reading Recovery® in relation to the state's supplemental expenditures for the program.

Program Features and Outcomes

The Reading Recovery® program offers schools a well-structured and comprehensive approach to intervention that addresses the learning needs of individual children who have reading difficulties. This section provides a brief overview of how the features of the program are designed to link to literacy outcomes (see Figure 4.1).

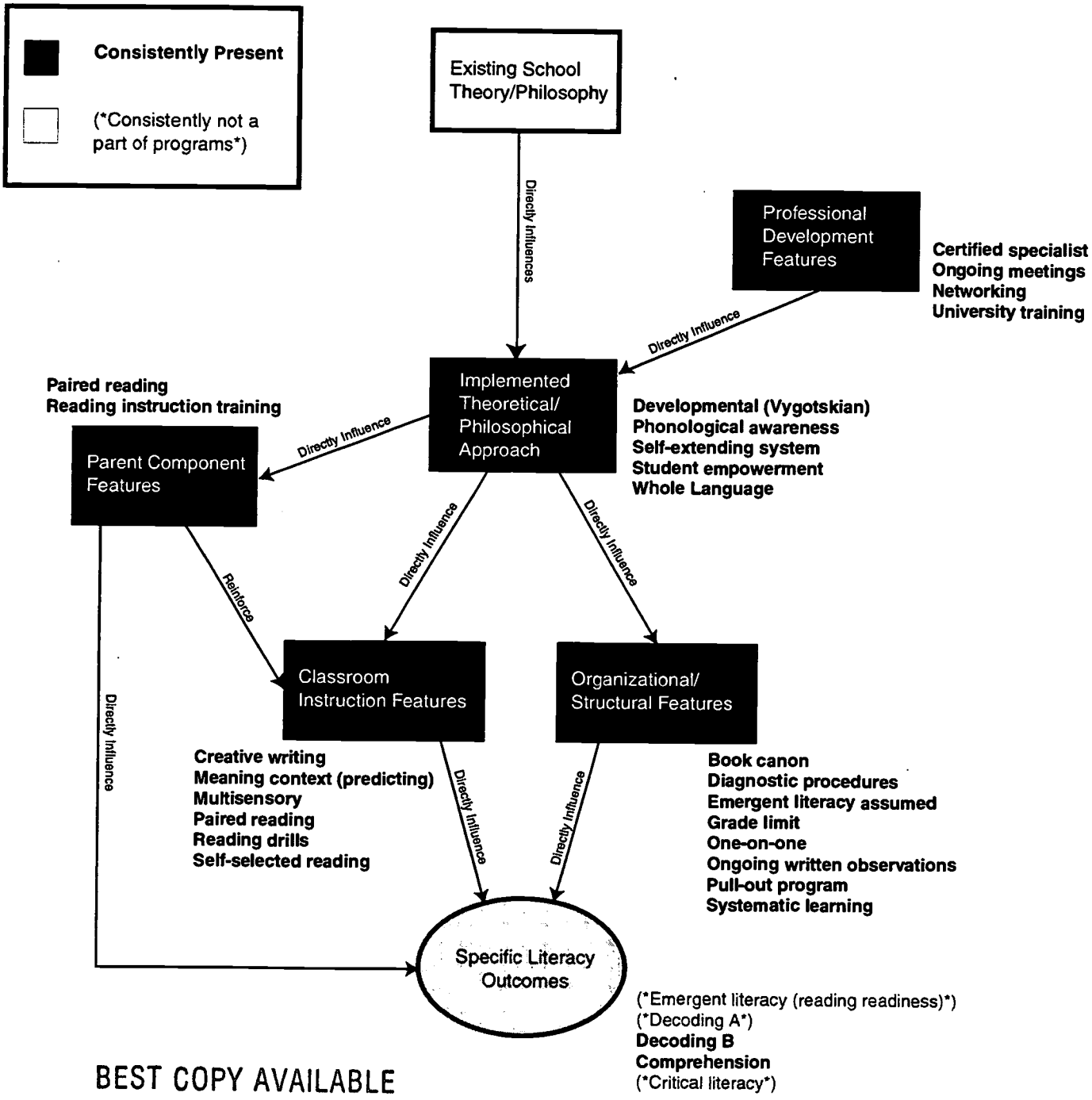
Professional Development

The Reading Recovery® program starts with a well-conceived professional development component. The key features of the professional development component include:[16]

- *University Training*: The professional development component of Reading Recovery® is facilitated through a university-based center that provides training of trainers. The national center is located at Ohio State University and the state center is located at Purdue University.
- *Certified Specialists*: The certification process in Reading Recovery® functions on two levels, with training of trainers provided by the university centers and training of certified specialists provided by the trainers at regional centers within the state.

[16] This description of training is based both on the literature review and observations of training at Purdue University, site visits, and an interview at a regional training center.

Figure 4.1
Reading Recovery® Program Features As Described in the Literature[1]



[1] Note: this figure represents only the program descriptions in the literature, and does not reflect actual implementations of this program in Indiana or anywhere else.

- *Ongoing meetings*: The training process in Reading Recovery® is a well-developed coaching model that builds the skills of specialists through training, direct observation, and coaching. Training centers are set up with mirrored glass windows in training rooms that allow for group observation of individual teachers in training. Teachers in training have the opportunity to observe, be observed, and discuss what they observe with others in training. Further, training is an ongoing process that builds a community of trained teachers.
- *Networking*: In the Reading Recovery® model, training is provided through the training center and teachers have opportunities to network with other Reading Recovery® teachers at the regional center on a routine basis. In addition, there are opportunities to attend statewide, national and international meetings.

Theoretical/Philosophical Approach

The Reading Recovery® model includes a well-conceived theoretical/ philosophical foundation that integrates whole language, phonological, and developmental components. First, the Reading Recovery® program is located in the *Whole Language* tradition and emphasizes holistic reading outcomes though a process of "meaning getting." The intervention process emphasizes meaning and context, which is consistent with the values and beliefs espoused in the whole language tradition (Smith & Goodman, 1971; Weaver, 1994).

Second, Reading Recovery® integrates *systematic learning* and a *self extending system*, concepts consonant with direct instruction philosophies that emphasize decoding and phonics. However, because of the emphasis on meaning getting, Reading Recovery® uses a different approach to phonological awareness and development than do most direct instruction processes that are based solely in a phonological tradition. For example, Reading Recovery® places less emphasis on rhymes (and related sounds of phonemes) and more emphasis on how sound links to meaning in words. The idea behind this adaptation is that it links more directly to comprehension. Nevertheless, practice in word-segmentation and letter-sound correspondences are regular activities in the Reading Recovery® program.

Third, Reading Recovery® also integrates a set of beliefs about the development and empowerment of children. The sequencing of lessons is linked both to Vygotskian zones of proximal development and to student empowerment. Vygotsky (1978) emphasized the student's knowledge in determining appropriate instruction. That is, rather than assuming a certain linear path to reading, or assuming that reading consists of certain skills that children lack and that they simply need to be taught, a Vygotskian approach assesses each student individually in order to learn each child's concepts about certain issues. Children's mistakes can be used to determine what they actually know. For example, if a child uses the verb "bringed," the teacher knows at least that the child understands the past tense, and moreover that the past tense is often formed with the addition of "-ed." Rather than simply correcting the child by saying the past tense of "bring" is "brought," the teacher now knows that the child is ready to learn about irregular ("strong") verbs, such as "think," "drink," "swim" etc., all of which are converted to past tense by

changing the medial vowel. This Vygotskian approach is extremely difficult in a class of 25 students, but it becomes possible to use in small groups and especially in one-on-one instruction, where this approach will allow the curriculum to be tailored specifically to the child's needs.

The training process in Reading Recovery® introduces teachers to a structured process through an embedded peer-coaching approach that focuses on the implementation of these philosophical foundations in practice. Thus, training in Reading Recovery® is both philosophically and theoretically grounded. The philosophical foundations are embedded in the training process, rather than the focal point of training. Further, these foundations do not have a large and direct influence on student outcomes, but rather exert an indirect influence through the parent involvement components, classroom instruction, and the organizational process.

Parent Involvement

In addition to providing a systematic process for working one-on-one with children, the Reading Recovery® model includes a systematic approach for involving parents. The two main features through which this linkage is implemented are:

- *Paired reading*: Parents read with their children in a way that is consistent with Reading Recovery® practice. Specifically, children do most of the reading, with parents supporting and praising the children. The emphasis is on meaning and enjoyment, not in getting everything "right."
- *Reading instruction training*: Parents are strongly encouraged to watch Reading Recovery® in action. They observe the tutorials through the one-way mirrors installed at all Reading Recovery® sites. This has several advantages: it makes the parents aware of how their children are being taught; it provides a model of reading instruction for the parents to use with their children; and it enables parents to be present and praise their children at the scene of learning, and thereby reinforce the child's self-esteem, sense of accomplishment, and belief in the authenticity of that day's reading.

At a minimum, the parent component provides a way of informing parents about the child's development and learning process. However, it also provides an avenue for their involvement in processes that can enhance their child's learning and, thus, can directly impact on the learning outcome.

Organizational/Structural Features

The Reading Recovery® model provides a well-structured process in the school. Three key features distinguish the model. First, *one-on-one* methods of instruction are used. An individual teacher works with an individual student in a scheduled session. Up to 60 half-hour sessions may be needed to complete the sequence of processes used in the program, though many children are discontinued (i.e., exit the program successfully) after fewer sessions.

Second, Reading Recovery® has a *grade limit*. Reading Recovery® in the United States is limited to a first grade *pull out program*. Some students who do not complete the full process by the end of first grade may receive lessons carried over into second grade, but the process is intended to be a first grade pull out for a limited number of students. This approach is highly compatible with the federal Title I program that has Reading Recovery® in many schools across the country. However, there is some concern that this feature may need to be adapted in Title I schools, as this federal program moves toward school-wide approaches.

Third, the Reading Recovery® model uses a *reading canon*. It provides teachers with a set of about 300 books that are organized in a way that is compatible with the sequence of learning milestones. The reading canon feature partially resolves a dilemma that reading instructors face. On the one hand, they can use *basal readers*, which offer comprehensive and coherent coverage of genres and topics and offer controlled vocabulary, providing reinforcement of what has been learned. On the other hand, they can use *trade books*, which are more interesting to children and more likely to instill a love of reading, creating a much more authentic reading experience. The reading canon limits the number of books, controlling both the quality and the difficulty of books. It may not be as strong as the alternatives in the areas where they excel (comprehensiveness and interest), but it has neither of the alternatives' liabilities (basal readers are dull and artificial, while trade books provide unorganized, inconsistent coverage of topics and genres).

Another structural aspect of Reading Recovery® is the combination *of diagnostic procedures* and "running records," which we categorize in the *ongoing written observation* feature. Through these tools, teachers are able to monitor progress and customize program content and activities for each child.

Reading Recovery® has two structural features that constrain the program's potential impact. First, while the program is structured to take children who score the lowest on a diagnostic test provided in the school, some students do not complete a sufficient number of lessons to raise their skill level to the classroom average.[17] Ohio Reading Recovery® sites had, for example, an 82% success rate in 1986–7, and an 86% success rate in 1987–8, in the years shortly after it was first implemented (Tierney et al., 1995).

The second limitation is that emergent literacy—that is, a minimal level of readiness to engage in the literacy acquisition process—is implicitly assumed in the model. The model has children "really reading and writing" in the first week, and a central tenet of its philosophy is that children must constantly engage in reading and writing, in the words of Pinnell, DeFord, and Lyons (1988, quoted in Tierney et al., 1995, p. 412): "Almost every minute during the lesson, children actively engage in reading or writing message and stories." Obviously children must have some level of emergent literacy before such tasks can be contemplated, and this focus explains why Reading Recovery® is limited to the first grade. While this focus in itself should not be construed as a weakness, it does put pressure on the school to ensure that the first graders most at risk of not learning to read are at least in a position where they can benefit from this type of instruction. Perhaps this

[17] There has also been some controversy about the Reading Recovery program excluding these children from their data (e.g.,Wasik & Slavin, 1993).

is why some Indiana schools have begun to develop new techniques for kindergarten programs that might help students get ready for Reading Recovery®.

Classroom Instruction Features

The Reading Recovery® model includes three well-defined and integrated instructional program features. First, the process includes *paired reading*, involving the teacher and the student in an interactive process. Teachers work with the student in an interactive process according to the Vygotskian method described above. Each session is broken into seven units, including reading, rereading, word formation, writing, and other activities. In each, the child does the work, with the teacher providing support and answering questions, but stopping short of interrupting activities to correct every single error. By taking notes, the teacher learns about the particular areas of knowledge that the child exhibits, and develops and/or modifies the program to meet the child's needs.

Second, Reading Recovery® uses a *meaning context (predicting) approach* that allows for a deep integration of phonological awareness and development into the meaning getting process. Predicting calls attention to the fact that writing is structured, whether it is expository or creative. By emphasizing this structure, students are better prepared to comprehend readings and to think and to write logically.

Third, Reading Recovery® also emphasizes *creative writing* as technique for learning to read. Using their knowledge of individual children's interests, teachers suggest topics for the children's compositions. These topics are often linked with reading that the children are doing at the time. Thus, writing reinforces comprehension of the reading while giving children an opportunity to practice using the structures they learned with the *meaning context/predicting* feature. This aspect of Reading Recovery® is in the whole language tradition and the process on empowering students through their own meaning-getting process.

Other instructional features of Reading Recovery include *self-selected reading*, *reading drills*, and *multisensory instruction*. The first of these, self-selected reading, is another feature compatible with whole language. Students choose the books they want to read, which helps to make reading appeal more to them. The other features represent Reading Recovery's attention to phonological awareness. In the reading drills feature, children break apart and re-synthesize words and sentences, usually taken from the reading. Parts of this activity are multisensory: children use magnetic letters to arrange words. The physical, tactile manipulation of letters may help reinforce children's concepts about letters and help children internalize the letters.

Specific Literacy Outcomes

Reading Recovery® emphasizes Decoding B and Comprehension. Decoding B is a network of strategies used to access textual meaning. Strategies that focus on Decoding B and comprehension provide access to written meanings. Because this approach to decoding is meaning-driven, it links directly to, and indeed is integral with, the process of acquiring comprehension skills. Given the diverse array of texts used in Reading

Recovery®, this program may also prepare students for comprehending diverse subject matter, as well as lay a foundation for critical thinking.

Thus Reading Recovery® is in the whole language tradition and emphasizes the understanding of meaning, rather than the mastery of letter-sound relationships. However, the method also includes a deeply integrated phonological approach that provides a reconstructed approach to decoding. This distinction between the two concepts of decoding has not been explored extensively in the research literature.

Research Base

According to most systematic reviews, Reading Recovery® is a program with a well-established research base and therefore is frequently in lists of proven programs (e.g., Tierney et al., 1995; Wasik & Slavin, 1993). However, the program is not without controversy. For example, Snow et al. (1998) reach the following conclusion based on their review of the research on Reading Recovery®:

> Despite the controversies regarding the efficacy of Reading Recovery®, a number of intervention programs owe their design feature to it, and it offers two important lessons. First, the program demonstrates that, in order to approach reading instruction with a deep and principled understanding of the reading process and its implications for instruction, teachers need opportunities for sustained professional development. Second, it is nothing short of foolhardy to make enormous investment in remedial instruction and the return children to classroom instruction that will not serve to maintain the gains that they have made in the remedial program. (Snow et al., 1998, p. 188)

In addition to recognizing that the Reading Recovery® program is widely emulated and that one of its major strengths is its emphasis on professional development, these comments illuminate an underlying problem. The Reading Recovery® program does not integrate well with the curriculum of most schools, a condition that can minimize the sustained effect of the program. If, as appears to be the case in Indiana, the intent of funding an intervention is to improve literacy achievement by third grade, then this lack of congruence could be a problem.

In spite of this limitation, there is a strong research base for Reading Recovery® that generally supports this claim: students who successfully exit the program exhibit improved reading skills. However, before reviewing specific site-based studies, it is important to review a couple of national studies.

First, Pinnell, Lyons, DeFord, Bryk, and Seltzer (1994) used hierarchical linear modeling (HLM) to compare Reading Recovery® with four other intervention approaches (Reading Success, Direction Instruction Skills Plan, Reading/Writing Group and a control group). They found that "Reading Recovery® was the only group for which mean treatment effect was significant on all four measures (Diction 2, text reading level, Gates-MacGinite, and Woodcock) at the conclusion of the field experiment" (p. 32). Further, they conclude: "the one-on-one instruction is a factor in the success of Reading Recovery®" (p. 34). These findings provide empirical support for the utility of the one-

on-one approach as a means to improve decoding and comprehension skills of students who experience difficulty learning to read in the regular classroom.

Second, Iversen and Tunmer (1993) experimented with increasing the emphasis on phonological processing skills in the Reading Recovery® model. In this study, there was a variation in the training methods used for two groups of students. Students in both groups finished the instructional process, although those in the altered group finished the process in fewer lessons.[18] The Dolch Word Recognition Test was used as the primary outcome measure. An analysis of variance showed that higher scores were associated with more emphasis on phonological processing. Path analysis was used to assess the contribution of various program features to higher scores on the test. They found that:

> Overall, the results of the path analysis suggest that phonological awareness is primarily responsible for the development of phonological recoding ability, that phonologic recoding ability is in turn primarily responsible for the development of context-free word recognition ability, and that context-free word recognition ability is in turn primarily responsible for the development of the ability to read connected text. (pp. 122-23).

Herein lies the crucial aspect of the debate about Reading Recovery®. Iverson and Tunmer state that context-free word recognition—a concept embedded in Decoding A—is central to proceeding more rapidly through the milestones in Reading Recovery® and to being able to read. This finding might be used to suggest shifting the emphasis toward Decoding A, toward the systematic approach to teaching about letter-sound relationships. However, focusing too much on Decoding A could undermine the intent of Reading Recovery,® which is to focus on meaning rather than sounds.

Clearly, these studies offer different perspectives on the impact of Reading Recovery® compared to other methods. Pinnell et al., (1994) compare Reading Recovery® to other techniques that emphasize both whole language (i.e., Reading/ Writing Group) and phonologic approaches (i.e., Direct Instruction Skills Plan), and conclude that the overall effects of Reading Recovery® are more substantial. This supports an argument that an integrated approach is desirable. In contrast, Iversen and Tunmer (1993) experimented with the modification of Reading Recovery® and placed more emphasis on a Decoding A (context free) outcome, a different outcome than is emphasized in Reading Recovery.® Pinnell et al. (1994), in contrast, use a more diverse set of outcome measures and conclude that Reading Recovery® is better at promoting decoding and comprehension. Had Reading Recovery® been more targeted on Decoding A, as Iversen and Tunmer advocate, then the Reading Recovery® students in the Pinnell et al. study may not have done as well on the diverse outcomes measured by Pinnell et al.

To untangle this issue, we still need to review some of the numerous other evaluations of Reading Recovery®. It is interesting to note that most of the evaluations of individual Reading Recovery® projects report that the students who complete the intervention generally achieve as well as the average for their classrooms on standardized

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[18] Iversen and Tunmer (1993) suggest that this might be a way of altering Reading Recovery® to reach more children.

tests (e.g., Ramaswami, 1994; Wang and Johnstone, 1995). However, site evaluations are difficult to compare and have not been analyzed in most national reviews (e.g., Snow et al., 1998). These studies suggest that Reading Recovery® helps students with comprehension and possibly with critical literacy, as these skills are needed to perform well on standardized tests. Therefore, more systematic attention needs to be given to the site evaluations.

Funded Projects

Our survey results provide some insight into the implementation of the Reading Recovery® project. In this section, we review results related to each of the features of the intervention, as well as briefly consider the implications of the responses to the survey.

Integration into the School Environment

The research literature on Reading Recovery® raises concerns that the program may not be adequately integrated into the environments of the schools in which it is implemented (Hiebert, 1994; Snow et al., 1998). The survey results provide some insight into this issue.

In response to an open-ended question, more than half (56%) of the respondents indicated that the Reading Recovery® program was integrated into the school. This is a positive sign, given research that suggests better integration of Reading Recovery® and core curriculum is needed for Reading Recovery® to be effective. Indeed, these responses indicate that in more than half of the schools, teachers and administrators had at least reflected on how the program integrates with the curriculum. However, not all of the schools that returned surveys shared this sentiment. A few even made comments that indicate Reading Recovery® remains outside of the regular curriculum. About 20% indicated that the program was integrated with Title I and 6% indicated that it was a "supplement" to the first grade curriculum.

Integration of the core curriculum and the Reading Recovery® program influences the long-term success of the program. Therefore, the schools in Indiana seem at least partially successful because of their focus on integration of these processes.

Professional Development

The major strength of the Reading Recovery® program may be its professional development component. The centrality of professional development was affirmed in most responses: 90% indicated that the Reading Recovery® program had ongoing professional development activities. Further, there were many comments about specific activities, such as regular meetings, conferences, observations and so forth. These responses seem to confirm that this component of Reading Recovery® was widely implemented.

Organizational/Structural

Corporations received grants under the Early Literacy Intervention Grant Program to train teachers. When asked about the focus of the project, 86% indicated the focus was to implement Reading Recovery® and/or train teachers. This illustrates the extent to which Reading Recovery® was viewed as a unitary, integrated program. Educators or administrators in charge of the grants saw the purpose of the grant as implementation of a predefined structure and process that is facilitated by training.

Philosophical/Theoretical/Instruction[19]

The survey included a single question about the use of instructional approaches. The responses are summarized in Table 4.1. The responses were quite diverse, with most respondents indicating either (a) "other" or (b) a combination of approaches that included phonics and whole language. We assume the "other" category was used to refer to Reading Recovery®, which would explain why 44% chose this as their only response.

Table 4.1
Instructional Approaches in Reading Recovery®: Responses from the Implementation Survey

APPROACH	NUMBER	PERCENT
Basal Approaches	0	0%
Basal, Phonics, Whole Language	3	6%
Basal, Phonics, Whole Language, and Developmental	5	10%
Phonics Methods	0	0%
Phonics, Whole Language	8	16%
Phonics, Whole Language, Developmental	10	20%
Phonics and Developmental	1	2%
Phonics and Other	1	2%
Whole Language	1	2%
Developmental	2	4%
ESL	0	0%
Other	22	44%
Blank	2	4%
Total Number Of Responses	50	

Note: [1] Some respondents who marked "Phonics, Whole Language, Development" also indicated "other."

Data source: Early Intervention Literacy Grant Program Survey, 1998.

This is an interesting set of responses. Clearly most of the respondents who indicated specific methods noted that Reading Recovery® includes multiple theories, philosophies, and instructional approaches. Most indicated that their intervention used phonics and whole language (52%) or "other" (44%). This shows that the complexity and intent of

[19] At the time we developed the survey, we had not fully distinguished the philosophical/theoretical programs features from the instructional features. Therefore, we report their implementation as a single component area.

Reading Recovery® are well understood. It also indicates that the complete implementation of the instructional process is taking place within the Reading Recovery® projects in Indiana.

Because many survey respondents seem to realize that the integration of phonics, whole language, and developmental approach is important—and that Reading Recovery® achieves this integration, at least conceptually—we conclude that Reading Recovery® is implemented in a manner consistent with the philosophy and methods of the Reading Recovery® program.

Parent Involvement

Responses on two of the questions provide insight into the implementation of the parent component of the program. First, in response to a question about change in the extent of parent involvement, there was little indication of change in the extent of parent involvement. More than half (52%) indicated that parent involvement did not change, while 30% indicated an increase and 18% indicated a decrease. There is no indication of substantial changes in the level of parent involvement.

Second, respondents were asked about the types of activities that were funded as part of the intervention. More than half (60%) indicated "involvement at home in children's learning" was included, while almost half (48%) indicated "school communications about students program" was included. Both of these responses are congruent with the parent involvement features of the Reading Recovery® Program and indicate the right type of features are being implemented. However, it is a bit surprising that a larger percentage of respondents did not indicate this form of involvement as included in the project.

Thus, responses to the parent involvement questions were of the type we would expect. That is, more parent involvement and involvement in learning-related activities. However, the extent of parent involvement was less than expected, given that parent involvement is an integral feature of Reading Recovery®.

Specified Outcomes

The survey also included an open-ended question about how the program influenced student outcomes. A summary of these narrative responses is provided below, in Table 4.2. Most of the respondents (72%) indicate that reading at grade level is the goal, which is entirely consistent in the design of Reading Recovery®. Only 4% indicated that reductions in special education referrals were an expected outcome, which fits with the IDOE's goals for the Early Literacy Intervention Grant Program.

This conclusion and reporting of outcomes is also entirely consistent with the research on Reading Recovery®. As the review above indicates, the program is effective at raising the reading level of students who complete the process to a level equivalent to the average student in the average class. However, it is the sustained effects—the achievement by fourth grade—that may be the more important outcome, and no respondents mentioned this as an outcome.

Table 4.2
How Does Reading Recovery® Contribute to Literacy Improvement?

RESPONSE	NUMBER	PERCENT
Better Reader/Reads At Grade Level	36	72%
Improved Literacy Skills	7	14%
Helps Student In Most Need	4	8%
Reduce Special Ed. Referrals	2	4%
Total Number Of Surveys	50	

Note: [1] Response to question: "How does the program contribute to literacy improvement?"

Source: Early Literacy Intervention Grant Program Survey, 1998.

Perhaps the long-term effects of the literacy intervention are overlooked in training, or perhaps those who are trained focus only on one grade level. However, this response regarding expected outcomes is not only consistent with the research, but also illuminates a limitation of the program.

Costs and Effects

This review of the implementation of Reading Recovery® Program in Indiana reveals that it is being implemented in a manner consistent with the program's design. While there may be some unevenness, the implementation is proceeding in a manner that indicates the program should function as expected. In this section, we consider the expected effects, the cost to the state per student served, and strategies for assessing costs and effects.

Likely Effects

The Reading Recovery® Program has a strong track record in raising the level of reading competency for children who are having difficulty learning to read at the outset of first grade. The expected outcome of the program is to raise students' reading ability to grade level by the end of first grade. This outcome is consistent with attaining gains in Decoding B and Comprehension skills by the end of first grade, or by completion of the program. The programs in Indiana apparently are being implemented in a manner that is consistent with this type of outcome.

The major criticism of Reading Recovery® is that the effects are not sustained through the end of third grade (Snow et al., 1998), the point at which reading—and, more generally, the ability to comprehend texts across subject areas—is considered central to future success in school. In our analyses of the survey results, the respondents for Reading Recovery® programs did not comment on student achievement by third grade and only a few expressed concern about future special education referrals.

Program Funds Per Student Served

The survey included questions about the number of students to be served. Table 4.3 summarizes information on the number of teachers trained, the number of students served, and the state expenses per student served. The state's funding for Reading Recovery®, at least the costs subsidized through the program, are relatively modest, about $650 per student receiving service. The cost of the program is less for corporations with more years of experience with Reading Recovery® than for corporations that only recently had teachers trained. There are two reasons for this: (1) the corporations with more experience have some previously trained teachers who are serving students; and (2) the more experienced teachers may be able to work with more students.

We must note one additional reason. For the 1997–98 school year, the state paid additional dollars to support continuing contact for all Reading Recovery® teachers trained previously, professional support for all previously trained teacher leaders, additional support for teacher leaders trained this year, and dollars allocated to Purdue University for Reading Recovery® research. If the $277,843 for these services were included and prorated for the number of students reported served, then the cost per student increases from $703 to $852 per student, and from $500 per student, across all years for which data are available, to $650 per student.[20]

Further, funding through the Early Literacy Intervention Grant Program represents only a fraction of the total cost of providing the service. Schools must organize time so that trained teachers can work about half a day in one-on-one sessions with students. Since Reading Recovery® uses trained teachers instead of aides, it entails higher operating costs per student than for students who remain in the classroom. However, from the perspective of the state, these other costs are arranged for by school districts with their existing revenues from the state and federal sources. Further, it is possible that spending more now also reduces future spending on special education or Title I. Thus, when viewed from the state level, there is a reasonable relationship between costs and effects.

Table 4.3
State Funding Per Student in Reading Recovery®

YEARS IN READING RECOVERY®	NUMBER OF CORPORATIONS	TRAINED TEACHERS	STUDENTS SERVED	STATE $ PER STUDENT
3 or More	19	158	942	$401
2	4	24	209	$603
1 or Less	27	47	350	$852
Totals	50	229	1,501	$650

Data source: Early Literacy Intervention Grant Program Survey, 1998.

[20] This figure is lower than the $917 reported in the Executive Summary because it takes into account the service provided by teachers in prior years and because it includes only the professional development portion of Reading Recovery®.

Finally, the cost to the state per student served should decline substantially in the future. The teachers currently being trained for Reading Recovery® should continue to work with students for some period into the future. Therefore, the current investment will continue to have returns after the current funding year.

Assessing Costs and Effects

The training provided for Reading Recovery® as part of the Early Literacy Intervention Grant Program appears to be a good investment for the state, to the extent that it helps raise first grade students to grade level in their reading proficiency. However, there are three issues that merit consideration in the future development of Reading Recovery® in Indiana:

- the linkages between Reading Recovery® and the early primary reading curriculum;
- the influence of Reading Recovery® on key outcomes (special education referral, retention, and reading achievement); and
- the state's funds per student for Reading Recovery® relative to its impact.

Greater attention should be given to these issues in the future development of the program. We suggest appropriate assessment strategies in Chapter VIII.

Chapter V

Early Literacy Learning Initiative

The Early Literacy Learning Initiative (ELLI) was recently developed by Ohio State University as a strategy for restructuring early primary (pre-kindergarten through third grade) literacy instruction in schools (Ohio State University [OSU], 1998)[21]. ELLI complements and extends the Reading Recovery® methodology, by extending and adapting Reading Recovery® methods to facilitate change in a school's entire early reading program.

As part of the Other Early Literacy Intervention (OELI) portion of the Early Literacy Intervention Grant Program in Indiana, four schools proposed and were funded for ELLI or ELLI-like projects. It is desirable to examine separately these programs because there is apparent interest in extending this approach to early literacy improvement in Indiana. In this chapter we consider ELLI's program features and intended outcomes, the research base, the features implemented by four ELLI[22] programs, and the anticipated costs and effects of these interventions.

Program Features and Outcomes

ELLI is a comprehensive school-wide literacy intervention (see Figure 5.1). The program includes features that relate to every component of our framework. We discuss each category of features briefly below.

Existing School Theory/Philosophy

The ELLI program requires that the new program be implemented only in schools where Reading Recovery® has already been implemented. Thus, ELLI is designed to complement and enhance the reading effects of Reading Recovery®. At a minimum, this approach would appear to address a widely noticed deficiency of Reading Recovery®: that it does not have a sustained impact, because the school's basic instructional processes frequently do not support the gains made during the original Reading Recovery® intervention (Hiebert, 1994; Snow et al., 1998).

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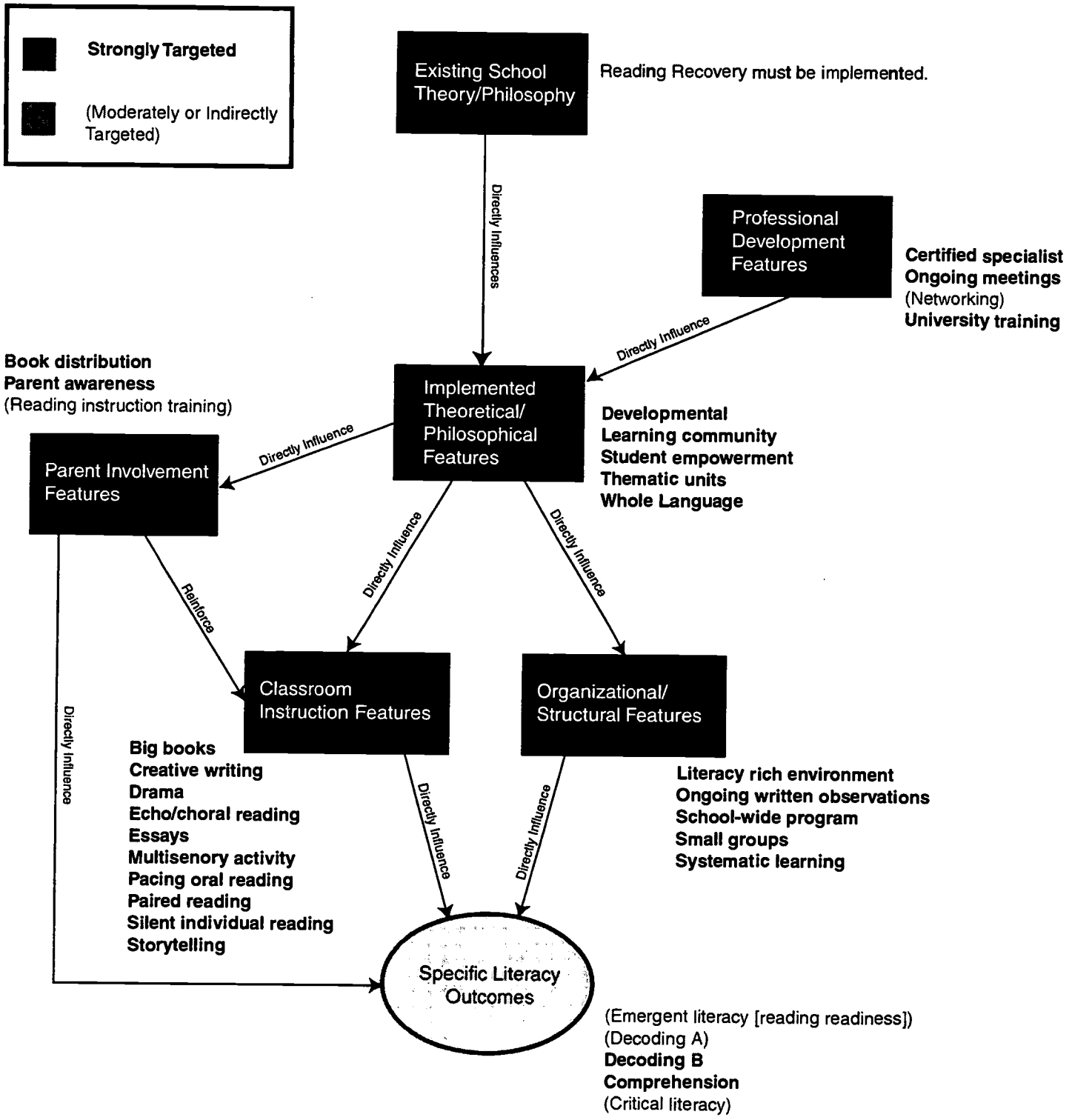
[21] This source is a press kit distributed in 1998.

[22] We selected these OELI projects for review because statements in each application either mentioned ELLI explicitly or the description of the anticipated activities very closely matched those used in the ELLI program.

Figure 5.1
Early Literacy Learning Initiative [ELLI] Program Features As Described in the Literature[1]



[1] Note: this figure represents only the program descriptions in the literature, and does not reflect actual implementations of this program in Indiana or anywhere else.

Viewed from a neutral vantage, the development of the ELLI program implicitly acknowledges the incongruity between the Reading Recovery® process and the existing theory/philosophy of early literacy instruction in many of the schools where Reading Recovery® is implemented. Viewed from the vantage of the advocates for Reading Recovery®, ELLI extends the Reading Recovery® theory and philosophy into the school as a whole, providing an opportunity to improve learning outcomes for more, or perhaps all, children. Our aim, as neutral policy analysts, is first to discern how ELLI might achieve this lofty aim, then to determine if evidence supports the claim.

Professional Development Component

The ELLI project carries forward and extends the professional development component of Reading Recovery®. The features of the professional development component include:

- *Certified Specialist*: As with Reading Recovery, in which teacher leaders—trained at a certified university such as Purdue University—train teachers, a trainer ("literacy coordinator") must attend Ohio State University or one of three other certified sites to qualify to teach other teachers. The coordinators guide implementation of ELLI in the schools.
- *Ongoing Meetings*: Provided by the literacy coordinator, these meetings offer study groups, coaching, support, demonstrations, etc.
- *Networking*: This is a deliberate side effect of the ongoing meetings.
- *University Training*: To qualify as a literacy coordinator, teachers must attend Ohio State University or another qualifying official training site.

These features represent both an extension of Reading Recovery® and a shift in the purpose. Each of these mechanisms is an extension of features of Reading Recovery®, thus the precedents and the mechanisms for supporting the network are well established. However, the differences in intent of ELLI compared to Reading Recovery® alter the purpose for the network. Rather than supporting teachers who have control over their practices, as is the case in the professional development component of Reading Recovery®, the ELLI network requires that teachers trained in the process facilitate change in their schools. This suggests that in ELLI, a support network would be needed for *all* K–3 teachers and aides who teach reading.

Implemented Theoretical/Philosophical Approach

The ELLI theoretical/philosophical features can be described as follows:

- *Developmental*: unlike Reading Recovery, ELLI provides instruction that targets emergent literacy outcomes, including concepts about print, a sense of story, and "oral language development."
- *Learning Community:* One of the secondary philosophies of ELLI, the learning community philosophy is developed through many of the collaborative learning

experiences that are a part of ELLI, such as small group instruction, drama, and shared writing.

- *Phonological Awareness*: Another secondary philosophy of the program, phonological awareness informs many activities in various units of the ELLI framework.
- *Student Empowerment*: Another secondary though significant philosophy of ELLI is student empowerment, which is effected through self-selected reading, and independent writing and reading.
- *Thematic Units*: Learning often revolves around theme-based activities, such as making story maps, making a restaurant for dramatic play, nature units, and taking surveys. These themes are often based on readings, which are linked together by theme.
- *Whole Language*: The program takes a holistic approach to reading and emphasizes pleasure and authenticity in reading activities, typical of whole language approaches.

The ELLI project differs somewhat from Reading Recovery® in the philosophy/theory that underlies the method. Consistent with the Reading Recovery® method, ELLI carries forward the *developmental* (Vygotskian), *student empowerment* and *whole language* bases from Reading Recovery®. Attention to phonological awareness is also carried through, though subordinated to the meaning-oriented classroom activities. However, ELLI adds *learning communities* and *thematic units*, dropping the Reading Recovery® feature, *self-extending systems*.

The changes in the underlying philosophy would seem to support the shift in focus from working with individual students in Reading Recovery®, to working with whole classes in ELLI. Further, the thematic approach provides a way of creating interest in a common topic among students with diverse abilities and learning needs, while the self extending systems embedded in Reading Recovery® provided a way of promoting student progression to completion of the intervention process. If the school maintains Reading Recovery® *and* reaches all children who need intervention through Reading Recovery®, then ELLI's new features would appear to support students who have completed Reading Recovery® in a structure compatible with the Reading Recovery® program. Thus, ELLI appears to change literacy instruction in the whole school to achieve compatibility. However, there are a number of questions that surface.

First, *how will the process work for students with learning needs who do not receive Reading Recovery®*? One of the criticisms of Reading Recovery® has been that it does not reach all students with need. Thus, it is important to consider whether this whole class intervention method helps these students.

Second, *will the new method work as well as or better than the system it is replacing*? Recall that Indiana schools have higher achievement than schools in most other states on the National Assessment of Educational Progress (NAEP) literacy achievement in the fourth grade (Table 3.1). Will the schools that use this method have a higher average test

score than schools that do not adopt this method? It is appropriate to ask this question, given ELLI's shift in emphasis toward the whole class.

Finally, *how will the existing school theory/philosophy adapt to fit the new intervention?* This is perhaps the most important question facing ELLI. While the new theory/ philosophy seems logical, it may or may not fit the current approaches and traditions in the school. The instructional processes used in schools are constructed by teachers in schools and are influenced by local (e.g., corporation) and state policies and practices. Once established, these patterns can be slow to change. Indeed, many of the original school restructuring processes assumed it could take five years or more (Hopfenberg, Levin and Associates, 1989). Therefore, it is important to consider how these new philosophies interact with and influence historic practices, and vice versa.

Organizational/Structural Features

The organizational aspects of ELLI are substantially more developed than in Reading Recovery®. Whereas Reading Recovery® is a self-contained intervention that is an add-on to a school, ELLI attempts to change literacy instruction in the school, which is why a different organizational approach would be needed. ELLI includes the following organizational/structural features:

- *Literacy-Rich Environment*: ELLI uses "alphabet centers" and "word walls."
- *Ongoing Written Observation*: Teachers make regular, systematic observations, including formal and informal assessment measures, videotapes, and observational records.
- *School-Wide Program*: While not as radical as Success For All, ELLI works with teachers, staff, and principals, to restructure the classroom approaches to teaching literacy and even touches on other subjects, including math.
- *Small Groups*: Small groups are used especially in the thematic units segment. It is also used in "guided reading," where children are grouped by ability. It is also possible that small group instruction is used in other settings, such as "interactive writing," but the literature is not clear.
- *Systematic Learning*: ELLI is organized as a "framework for early literacy lessons," and it is organized into eight elements in addition to several other units. The organization is designed to provide opportunities for all children to participate in a broad range of literacy-related activities in an effort to cover reading outcomes comprehensively.

These features would appear to support extension of the Reading Recovery® model to the whole classroom. It is particularly noteworthy that ELLI utilizes a small-group approach. While Reading Recovery® uses one-on-one, a small-group approach influences school-wide changes, as is the intent of the program.

Classroom/Instruction Features

The ELLI project offers a comprehensive approach to literacy instruction. The features of the process include all of the following features:

Big Book	Multisensory
Creative Writing	Pacing Oral Reading
Drama	Paired Reading
School/Choral Reading	Silent Individual Reading
Essays	Storytelling

This extensive set of practices appears to pull together practices that are compatible with an integration of whole language and phonological methods, but with a greater emphasis on methods that are compatible with the whole language tradition. In schools previously situated in the whole language tradition, the implementation of these practices would move teachers a bit more toward the middle ground. Educators situated in a phonological method may find the new approach moves them past the middle ground, toward a whole language environment. This raises further questions about the implementation and integration of these new practices in the existing structure of the school, as well as about the influence of these new practices on student literacy achievement.

Parent Involvement

The Early Literacy Learning Initiative includes three features that promote parent involvement in their child's literacy acquisition process:

- *Book Distribution*: The key parental component feature of ELLI is what it calls KEEP books. These are inexpensive, 8–12 page paper books that children take home with them to share with their families. The books reflect what children are learning at school, and they ensure that all children have access to appropriate reading materials in the home.
- *Parent Awareness*: Parents are kept aware of school activities through a number of means: they are sent information, encouraged to come to school, participate in workshops, and the KEEP books also maintain parent awareness.
- *Reading Instruction Training*: Indirectly through the two features mentioned above, parents are provided with a model of reading instruction that they can emulate at home with their children.

These features, if fully implemented, would appear to support parent involvement in their children's learning process. Further, the approaches used to work with parents appear integrated with classroom practices. If the classroom practices are fully implemented, these practices would appear to enhance the impact of the basic school curriculum.

Literacy Outcomes

ELLI focuses on Decoding B and comprehension, which is consistent with Reading Recovery®. By focusing on the middle of the outcomes spectrum, ELLI clearly places priorities on moving from simple decoding to genuine comprehension. The strengths of this approach, logically at least, are that it provides a well-designed bridge to move children through various stages of literacy, using a variety of techniques that reinforce each other and promote good reading behaviors and attitudes. Whole language has been widely criticized for focusing too much on critical literacy while not providing the means for many children even to achieve that level of literacy. ELLI avoids this problem in part by shepherding children from simple decoding toward critical literacy with systematic practice in different kinds of reading and writing.

By emphasizing these mediary outcomes, ELLI may be comparatively weak on the remaining outcomes: emergent literacy, Decoding A, and critical literacy. These outcomes are indeed targeted in ELLI's framework, but their features are integrated with other features that are designed to target Decoding B and comprehension more strongly. We address each of these less strongly targeted outcomes below.

- *Decoding A*: Mixed in with several of its instructional blocks, ELLI targets several skills that we would associate with Decoding A. All of the writing components emphasize the analytic nature of written language: letters, words, and sounds receive attention in themselves, and students also receive practice with "building up and breaking down" these analytic units. Punctuation and written structures are also stressed. However, each of these takes place in a meaning-oriented context, and the intervention never targets Decoding A as directly or explicitly as programs (e.g., Success For All) more openly using a *phonological awareness* theoretical approach. Thus, it would be inaccurate to claim that ELLI does not target Decoding A. Indeed, features such as these are largely responsible for leading us to characterize ELLI as a program reaching toward the common ground, though still leaning somewhat more toward Whole Language than phonological awareness.
- *Emergent literacy*: This outcome is also a target of ELLI's literacy framework, though like Decoding A, it is not as explicitly targeted as Decoding B or comprehension. Framework units include emphases on concepts about print, a literacy rich environment, and teacher-modeled writing. As with features linked to Decoding A, features linked to emergent literacy are embedded in activities more directly targeting Decoding B and comprehension.
- *Critical Literacy*: ELLI's diversity of meaning-oriented approaches, coupled with rereadings of materials, creative writing, writer's workshops, thematic units, and encouragement of self-expression should all contribute to children's growing sense of power with texts—to disagree, to use written information for their own uses, to desire more, to find ways to stimulate interests. All of these are uses of critical literacy. The amount of attention devoted to Decoding B and comprehension outcomes may, however, not provide opportunity for this outcome to be more fully targeted. It may, however, be sufficiently targeted to lay a

foundation for the development of this outcome at a later stage, such as later primary school.

How does ELLI compare to the existing curriculum? Our framework and review suggest that a comprehensive literacy program in K–3 education needs to focus on emergent literacy (especially in kindergarten, if not in first grade), decoding (A and/or B), comprehension and critical thinking. Its features appear to target all of these features, including both Decoding A and B, though two of the outcomes—Decoding B and comprehension—clearly receive the priority. Logically, then, it appears to be a viable early elementary approach to literacy instruction, covering all of the outcomes through a well designed synthetic approach. Nevertheless, there is reason to question whether these new practices will actually work better at the school level than current practices.

Research Base

While the design of the Early Literacy Learning Initiative is based on research and experience with Reading Recovery®, there is no research on ELLI per se. As the discussion above illustrates there are several questions that merit attention. Therefore, research is needed on this program.

Funded ELLI Projects

The survey results indicate aspects of the ELLI program are being implemented in four corporations.[23]

Organizing Philosophy

Reading Recovery® provides the core approach for the ELLI program in Indiana. When asked to indicate the activities that best defined their programs (Table 5.1), all four (100%) indicated emergent/early literacy, strategies similar to Reading Recovery®, and small groups. All three of these responses are consistent with the core approach of ELLI. Two also indicated Reading Recovery® (50%) and one-on-one tutoring (50%), while only one indicated parent involvement (25%) was included in the project. However, we might expect more of the respondents to select these as well, given the comprehensive nature of ELLI.

Professional Development

Surprisingly, not all of the sites indicated there was ongoing professional development: three responded affirmatively (75%); and one did not respond (25%). When asked about the types of activities included in this ongoing professional development, two indicated some type of systematic training had been provided and two

[23] These school corporations had supplemental training from Ohio State. However, they were not officially sanctioned as ELLI projects.

indicated plans for some type of systematic training (50%). This raises questions about whether these sites have the type of support they need.

Table 5.1
Activities that Best Describe Intervention (ELLI Respondents)

TYPE	NUMBER	PERCENTAGE
Reading Recovery®	2	50%
Strategies Similar to Reading Recovery	4	100%
Emergent/Early Literacy Strategies	4	100%
One-On-One Tutoring	2	50%
Small Groups	4	100%
Parent Involvement	1	25%
Number of Surveys	4	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

Philosophy/Instruction Approach

When asked about the types of instructional practices used in the intervention (Table 5.2), three of the four respondents indicated a combination of approaches that included phonics, whole language, and developmental, a combination that would be consistent with the ELLI approach. One respondent indicated development and "other." The other category can be used to refer to Reading Recovery® and/or ELLI. Thus, the respondents indicated multiple methods that were consistent with the philosophy and methods of the ELLI program. This indicates linkage between the professional development process and the program that was implemented.

Table 5.2
Instructional Approaches in Funded Intervention (ELLI projects only)

APPROACH	NUMBER	PERCENTAGE
Basal, Phonics, Whole Language, Developmental, And Other	1	25
Phonics, Whole Language, Developmental	1	25
Phonics, Whole Language, Developmental, Other	1	25
Developmental, Other	1	25
Number Of Surveys	4	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

Further, ELLI projects have been implemented across grade levels. The four projects were serving an estimated 141 kindergartners, 220 first grade students, 58 second grade students, and 32 third grade students.

Table 5.3
Students Served and Average Hours of Weekly Instruction, by Grade Level (ELLI Respondents)

LEVEL	NUMBER	AVERAGE HOURS PER WEEK[1]
Kindergarten	141	5.83
Grade 1	192	3.67
Grade 2	58	2.0
Grade 3	32	1.5
TOTAL for 4 Surveys	423	

Note: [1] Indicates simple average of reported averages, rather than a weighted average.

Data source: Early Literacy Intervention Grant Program Survey, 1998.

The average number of instructional hours per week ranged from 5.8 in kindergarten to 1.5 in third grade (Table 5.3). This indicates that the substantial portion of their total literacy instruction was directly related to the ELLI project, especially in kindergarten and first grade. Thus, ELLI also had a substantial influence on regular classroom students for a large number of students.

Parent Involvement

When asked about the kinds of parent involvement activities that were included in the projects (Table 5.4), three (75%) indicated involvement in their children's learning and school communication about progress. Two indicated parent involvement in school activities (50%). One (25%) indicated "other" and commented about parents meetings, in which teachers demonstrated to parents how to help children at home. Thus, most respondents acknowledged that parent involvement in learning at home was a key feature of ELLI.

Table 5.4
Parent Involvement (ELLI Projects)

ACTIVITIES	NUMBER	PERCENTAGE
School Activities	2	50
School Communication about Progress	3	75
Parent Involvement in Children's Learning	3	75
Parent Involvement in Governance	0	0
Other	1	25
Total Number of Surveys	4	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

Further, when asked about changes in the extent of parent involvement, all respondents indicated an increase. Thus, the parent involvement in most of the ELLI

schools appears to have increased the extent of parent involvement, apparently in a manner that includes more direct involvement in literacy instruction at home.

Student Outcomes

There was some variation in the methods that were used to assess student progress. All four indicated that they would use observations. In contrast, only two (50%) indicated they used portfolios, proficiency checking, locally developed tests, and standardized tests. This suggests that patterns of evaluating student progress are not yet well developed in these sites.

Table 5.5
Methods of Measuring Student Outcomes in ELLI Projects

METHOD	NUMBER	PERCENT
Portfolios	2	50%
Proficiency Checking	2	50%
Observation	4	100%
Locally-Developed Tests	2	50%
Standardized Tests	2	50%
Number of Surveys	4	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

Costs and Effects

The fact that four of the funded sites had programs that appear to be consonant with the Early Literacy Learning Initiative of Ohio State University provides an opportunity to study these sites. Our conclusions about the likely effects relative to the costs for the state are summarized below.

Likely Effects

Based on this literature review and analysis of survey results, it is clear that ELLI holds substantial potential, but certainly needs to be tested further. We reached the following conclusions about the implemented projects:

- The ELLI program has a strong conceptual basis that could result in improvement in literacy outcomes for large numbers of students.
- The research base is not well developed, so it is not possible to develop firm conclusions about likely effects.
- The funded programs do not include consistent measures of student outcomes, which limits the opportunity to learn more about the impact of ELLI from these projects.
- The impact of ELLI in Indiana is difficult to predict given the lack of a research base and the uneven implementation.

Program Funds Per Student Served

The state funded the four ELLI related projects at a total of $219,237. These projects served an estimated total of 423 students. Thus the state subsidies per student were $518.

These per student costs to the state are about the same as for Reading Recovery® even though the program reaches a substantially larger number of students. There are not economies of scale compared to Reading Recovery®.[24] The real challenge of this intervention is to have an influence on improving school-wide achievement at the end of third grade. It does not appear as though these outcomes were measured. More attention should be given to the research component of ELLI.

Assessing Costs and Effects

These projects represent both an opportunity and challenge for the state of Indiana. On the one hand, ELLI provides a conceptually sound approach to restructuring early literacy programs in schools with Reading Recovery®. Thus, ELLI may be worth expanding in subsequent phases of the Early Literacy Intervention Grant Program. On the other hand, the funded projects need to be studied further to help determine if this potential is being realized.

Further, it should be noted that the state's costs per student are higher for the ELLI-like projects reviewed here than they were for the other school-wide early intervention projects reviewed in Chapter VII. Therefore a systematic comparison of the costs and effects of different types of school-wide programs is needed. We suggest strategies for such an evaluation in Chapter VIII.

[24] If we consider the number of students served by new Reading Recovery® teachers, as we did in the Executive Summary, then the Reading Recovery® costs are higher per student.

Chapter VI

Full-Day Kindergarten Programs

Seven of the projects funded in the Early Literacy Intervention Grant Program were full-day kindergarten programs. Given that the State of Indiana is currently considering the option of funding full-day kindergarten programs on a state-wide basis, this is a timely opportunity to review the implementation of these programs. This section applies our framework for evaluating literacy interventions to full-day kindergarten projects funded through the Early Literacy Intervention Grant Program.

Program Features and Outcomes

Full-day kindergarten is not a single program implemented in similar ways across diverse schools, but rather an extension of the regular school day, occasionally implemented with some additional program features. To develop a profile of the program features of full-day kindergarten programs, we reviewed the features of 21 research studies and examined national statistics on the features of full-day and half-day programs.

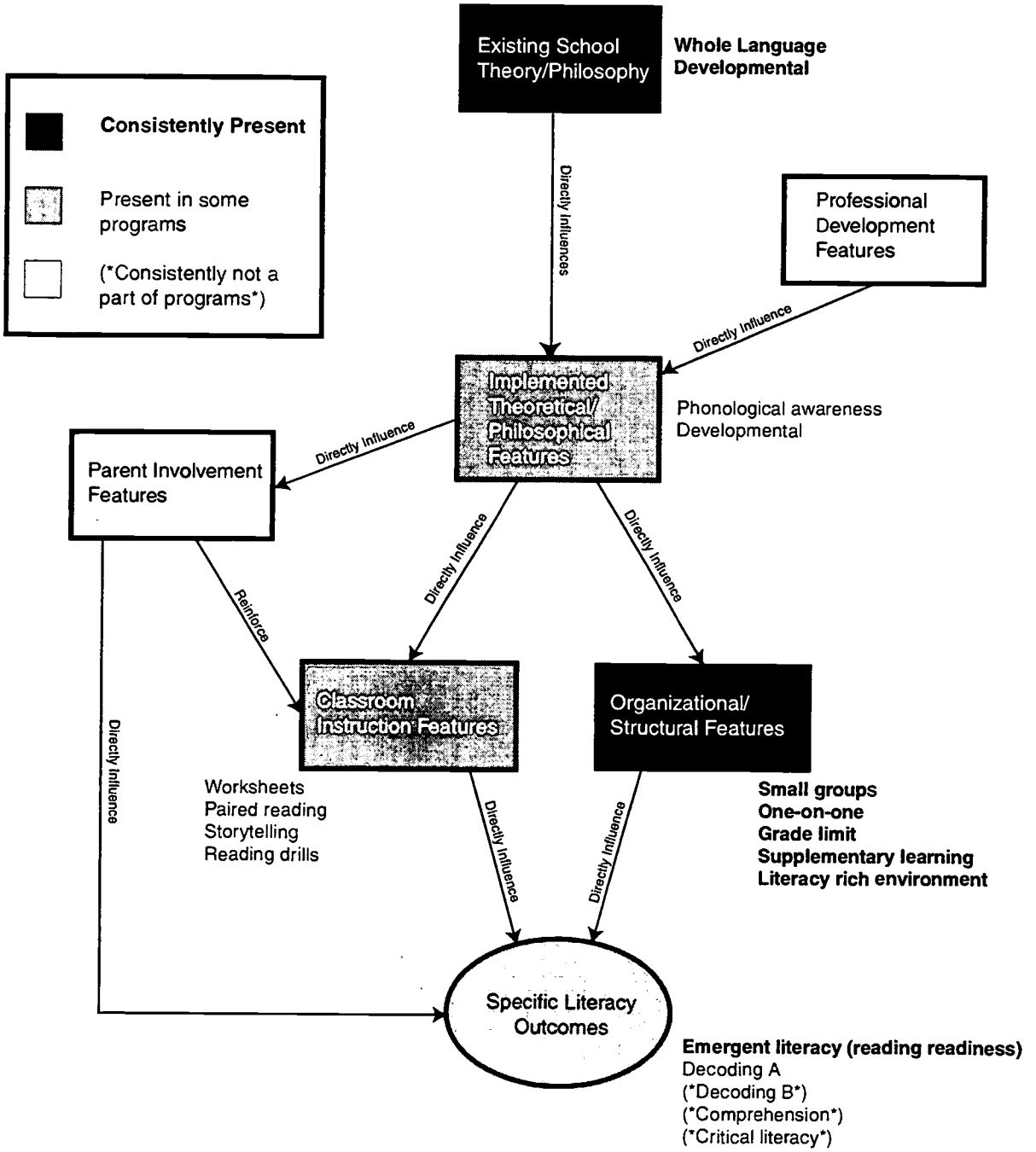
The program features included in full-day kindergarten programs are presented in Figure 6.1. We distinguish between the common pattern of full-day kindergarten programs (dark shading of Figure 6.1) and features of a few distinctive interventions that have been documented in the literature (light shading of Figure 6.1). We provide a brief overview of the features below.

However, before reviewing the common pattern of program features, it is important to note that this literature virtually ignores parent involvement and professional development. This further suggests that full-day kindergarten has generally been implemented as an extension of an existing school program, rather than being carefully planned as a comprehensive intervention aimed at improving literacy.

Common Program Features

When we examine the dominant pattern in full-day kindergarten programs, we find that most programs carry forward a base theory and philosophy that emphasize a literature-rich environment, an approach associated with *Whole Language*. It is important to acknowledge this feature of kindergarten programs. This method typically exposes students to symbols (including pictures) and texts, thus helping prepare students to learn to read. In addition, most kindergarten programs often include a *developmental* emphasis. This usually entails a Piagetian emphasis (a sequential theory of development), though

Figure 6.1
Full-Day Kindergarten Program Features
As Described in the Literature[1]



[1] Note: this figure represents only the program descriptions in the literature, and does not reflect actual implementations of this program in Indiana or anywhere else.

some of the new programs have integrated a Vygotskian (a theory emphasizing proximal zones of development).

The major changes made in most full-day kindergarten programs are usually concentrated in the organizational and structural component. The types of features that are more likely to be included in full-day programs than in half-day programs are:

- *Small groups* as a means of promoting literacy achievement,
- *One-on-one* techniques since teachers and aides often have more time to work with individual children, and
- *Supplementary learning*, including more time on task in literacy instruction and exercises.

Features in Some Interventions

We found a few programs that not only made these structural changes, but also developed more comprehensive interventions that changed the theory or philosophy of the programs, as well as classroom instruction (e.g., Humphrey, 1988). These programs included phonological awareness along with the whole language and developmental emphasis of kindergarten programs. These programs tended to integrate more diverse instructional activities, including more emphasis on the following:

- *Worksheets*, a drill technique that reinforces direct instruction in phonological awareness,
- *Paired Reading*, an approach to facilitating reading awareness and the fundamentals of reading that reinforces both the whole language and phonological awareness approaches,
- *Storytelling*, a whole language technique that enriches child development and language acquisition, and
- *Reading Drills*, a set of direct instruction techniques that carry forward an emphasis on phonological awareness.

These features were often present in the more complete interventions, though not necessarily included in all of them.

Expected Outcomes

The primary outcome of kindergarten is *emergent literacy* (or reading readiness). Simply stated, emergent literacy is an indicator of whether a student is ready to read. A number of measurement instruments are used to measure reading readiness (e.g., the Peabody Picture Vocabulary Test). Emergent literacy is a broader, more inclusive term which not only incorporates the narrower concept of being ready to read, but also incorporates an understanding of the meaning students derive from various forms of visual symbols and oral communication. The broader concept is more compatible with the historic, literature-rich approach used in most kindergartens.

A second outcome that is relevant to kindergarten is Decoding A, the ability to recognize letters and related sounds. By integrating phonological awareness more directly into the kindergarten instruction, it is possible to promote Decoding A skills. This is by no means a new concept, given that Sesame Street® has provided this type of instruction on public television for decades. However, the integration of two philosophical approaches to kindergarten instruction has taken time. Further, the focus on Decoding A skills at the end of kindergarten and at the start of first grade has not been used frequently. Rather, it is when we use the standard of sustained improvement in reading by the end of third grade—the outcome central to meeting the literacy challenge—that we begin to see the potential importance of Decoding A.

Research Base

How does a review of the research base inform our understanding of full-day kindergarten as an early literacy intervention? New insight begins to emerge when we use the framework we developed as a basis for a critical review of the research literature. First, we distinguish between studies that were of a low quality and those of higher quality. After taking this step, it is possible to see better how the various types of program features influence literacy outcomes.

"Low Quality" Studies

Most of the studies we reviewed were of low quality.[25] These studies had poor research designs. They tended to focus on improvement during the school year, using pre- and post-tests and did not include a comparison group for control. These articles also tended to take advocacy positions toward full-day kindergarten. The findings from these studies are summarized below:

- They noted substantial improvement in student achievement (reading readiness) during the school year, but since most did not compare these scores to a half-day kindergarten group, it was not possible to make judgments about the meaning of the reported gains.
- Few of these studies looked beyond kindergarten, using primarily reading readiness measures. Those that did look beyond kindergarten usually found that students lost any relative advantage by the end of third grade. In other words, they did not have a sustained impact.
- These studies indicate a high positive response to full-day kindergarten by parents and teachers.

[25] We found 21 studies completed since 1988 that investigated full-day kindergarten. Fifteen of those studies were of low quality, according to the criteria used in the review (appendix B). These studies are Goodwin, 1989; Harrison-McEachern, 1989; Jarvis & Schulman, 1988; Johnson, 1988; Johnson, 1991; Johnson, 1993; Johnson, 1994; Jones, Pollock, & Marockie, 1988; Koopmans, 1991; Lore, 1992; Lore, 1993; Nunnelly, 1996; Robinson-Lewis, 1991; Sergesketter & Gilman, 1988; Tatum, 1998.

"Moderate Quality" Studies

Six of the studies we reviewed were of at least moderate quality (Elicker & Mathur, 1997; Holmes & McConnell, 1990; Hough & Bryde, 1996; Humphrey, 1988; Sheehan, Cryan, Wiechel, & Bandy, 1991; Wichita Public Schools, 1989). These studies tended to include control groups of half-day kindergarten students matched on key characteristics. They compared outcomes for students in full-day kindergarten to students in half-day kindergarten. In addition, the researchers cited limitations of their studies and were more speculative about their conclusions. The findings from these studies are summarized briefly below.

First, these studies found that the full-day kindergarten programs had moderate but significantly higher gains on standardized tests and higher report card scores at the end of kindergarten than did the children in half-day programs. These studies essentially confirm the claim of the lower quality studies that full-day kindergarten helps improve emergent literacy. However, the authors of the moderate quality studies usually exercised more caution when interpreting findings.

Second, there was variation in the sustained effects by third grade noted in these studies. When there were sustained effects in literacy outcomes, they tended to be in the area of Decoding A at the end of third grade. On further examination, four of the moderately well designed studies found that phonological awareness had a sustained impact on literacy by the end of the third grade.

Third, these studies also found that there was an extremely positive response to full-day kindergarten by parents. Indeed, we suspect that many parents would choose full-day programs if they were available and that having full-day programs could induce more parents to choose to send their children to kindergarten.

Understanding the Research Base

This review of the research base provides insights into the ways that the features of full-day programs influence literacy improvement. First, given that most programs included more structural features, such as supplemental time, we expect that increasing the time available for literacy instructions can improve emergent literacy (or reading readiness) by the end of kindergarten. However, these effects generally are not sustained.

Second, when phonological awareness is included in the instructional program, along with the literature-rich approach typically used in kindergarten, then the effects of full-day kindergarten are more likely to be sustained. Thus, the integration of these two methods in kindergarten appears to increase the sustained effects of literacy outcomes. From our perspective, this provides further evidence of the value of integrating the whole language/literature rich approach with phonological awareness in kindergarten.

Unfortunately, there is not sufficient evidence from these studies to reach conclusions about the professional development and parent involvement components of full-day kindergarten. However, we think these features merit more attention as they probably could enhance the impact of full-day kindergarten programs.

In addition, it is worth noting that there is some evidence that a well-designed full-day program—one that includes phonological awareness along with whole language and

developmental approaches—can reduce retention (Humphrey, 1988). However, no significant effects on special education referrals were reported (Wichita Public Schools, 1989; Jarvis & Schulman, 1988). Given that poorly performing students are now more likely to be referred to special education than to be retained, it is possible that well-designed full-day kindergarten programs could reduce these referrals in the present context.

Funded Full-Day Kindergarten Projects

There were seven full-day kindergarten projects funded through the Early Literacy Intervention Grant Program. A few of these projects had funding for the full costs of the program (i.e., adding another half-day), while others only had funding for supplemental activities. However, the survey respondents provided information on the features implemented.

Structural/Organizational

These programs tended to include the organizational features that were typical of full-day kindergarten programs, as described in the research literature. Four of the programs structured the delivery of literacy instruction in small groups, three used one-on-one methods, and five indicated they used other methods. Three of those who indicated "other" simply indicated they extended the instructional day.

These programs also used state funds to buy materials used in literacy instruction. Four purchased books for students, three used funds for staff, and two used funds for families. One purchased computer hardware and software and one purchased literacy kits.

Philosophical/Theoretical/Instructional

When asked about their approach to literacy, all of the respondents indicated that their programs used whole language and developmental approaches (Table 6.1). Five (71%) indicated they used a phonics approach. In addition, one indicated English as a Second Language (ESL), one indicated using a basal approach, and four used other approaches.

Table 6.1
Theoretical/Instructional Approaches to Full-Day Kindergarten

APPROACH	NUMBER	PERCENT
Basal	1	14%
Phonics	5	71%
Whole Language	7	100%
Developmental	7	100%
English as a Second Language	1	14%
Other	4	57%
Total	7	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

An interesting picture emerges from these statistics. All of the kindergarten programs maintained foundations in the developmental and whole language traditions, that are typical of kindergarten programs. In addition, most of these programs (71%) also included phonological approaches. This means that the combination of approaches that we would expect to have the greatest long term impact—whole language, developmental, and phonics—were included in most of these programs.

Parent Involvement

Most of these programs also included strong parent involvement components. When asked about the level of parent involvement, four of the respondents indicated that it had increased, two indicated it had stayed the same, and one did not answer.

Further, on average an estimated 62% of the parents were involved in some type of activity. Parents were usually encouraged to work directly with their children on reading and to participate in other direct involvement with their children.

Professional Development

All of the respondents indicated that professional development was included. The types of activities reported included going to conferences and other training sessions. However, this does not necessarily mean that professional development was part of a coherent program plan.

Expected Outcomes

When asked how they planned to assess student outcomes as part of this literacy intervention, all indicated they would use observation (Table 6.2). Proficiency checklists were also checked by most of the respondents, followed closely by portfolios.

Table 6.2
Methods of Assessing Literacy Outcomes in Full-Day Kindergarten Programs

METHOD	NUMBER	PERCENT
Portfolios	4	57%
Proficiency Checklists	6	86%
Observation	7	100%
Locally-Developed Tests	2	29%
Standardized Tests	3	43%
Other	3	43%
Number of Surveys	7	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

These methods of student assessment are consistent with the assumption that the primary outcome of full-day kindergarten is reading readiness (or emergent literacy).

Greater attention could probably be paid to the impact of the programs on long-term literacy improvement.

Indeed, these programs include instructional approaches that appear to have a greater chance of having a sustained impact, by combining phonological awareness with whole language and developmental approaches. It would be valuable to assess whether in fact such influences eventuate. In addition, it would be interesting to see if these programs actually reduced referrals to special education.

Costs and Effects

The full-day kindergarten programs implemented in Indiana during the 1997–98 school year as part of the Early Literacy Intervention Grant Program follow the pattern evident in most of the research of full-day kindergarten programs. Below we examine the likely effects, the costs to the state, and strategies for assessing costs and effects.

Likely Effects

From the review of the literature, we would expect the effects of implementing an ordinary full-day kindergarten program to be limited to modest gains in emergent literacy at the end of kindergarten, with no sustained effects at the end of third grade, the point at which the literacy challenge is most crucial. However, the seven programs that were surveyed appear to be well designed. They include features that we would expect to increase the long-term effects. Most of these programs include phonological awareness as an instructional strategy, along with the whole language and developmental approaches, a combination that should enhance long term effects. They also include strategies for increasing parental involvement and promoting professional development, both of which could enhance the long-term effects.

Program Funds Per Student Served

The number of students served is presented in Table 6.3, along with the state awards to the programs. The average state expenditure per student was $1,275. However, substantial variation was evident in state funds per student.

The variability in expenditures per student for full-day kindergarten projects was attributable to differences in (a) what was included in the proposals and (b) what portions of the proposals were funded. The cost ranged from a high of $3,473 per student served to a low of $75. This is much more variability in cost than would be expected if the state actually funded full-day kindergarten programs using a standard formula.

Assessing Costs and Effects

The research literature indicates that the effects of typical full-day kindergarten programs are modest. Most of the research finds there is improvement in emergent literacy at the end of kindergarten, but not sustained impact on literacy achievement in the third grade. Thus, while the cost per student seems reasonable, there may be reason to

Table 6.3
State Funding for Full-Day Kindergarten Programs

CASE	GRANT AMOUNT ($)	EXPECTED STUDENTS	SERVED STUDENTS	STATE $ PER STUDENT SERVED
1	56,210	19	40	1,405
2	90,000	60	50	1,800
3	97,250	44	28	3,473
4	3,000	30	40	75
5	10,000	31	35	286
6	6,500	12	10	650
7	15,000	16	15	1,000
Total	277,960	212	218	
Average				1,275

Data source: Early Literacy Intervention Grant Program Survey, 1998.

question this type of program simply on these grounds. However, the effects of full-day kindergarten can be enhanced if these programs are well designed. We suggest two ways the effects might be enhanced:

First, the research literature strongly indicates that combining phonological awareness with the whole language and developmental approaches in the design of full-day kindergarten programs increases the chance that these programs will have a sustained effect beyond kindergarten, including improvement in literacy by the end of third grade. Five of the seven funded programs in Indiana include such a combination of features, which indicates a possibility for a sustained effect.

Second, it is possible that full-day programs can reduce retention in subsequent schooling (Humphrey, 1988), and possibly referrals to special education. The reasons for this linkage are not clear from the research literature, but merit further exploration in Indiana.

It is especially important that the effects of these full-day kindergarten programs be systematically examined, especially given the policy debates about providing funding for FDK. However, given that there is not one single reading readiness measure in use in Indiana, it is not possible to assess the impact of these interventions on this outcome. However, it is feasible to assess the effects on special education referrals and on rates of passage into first grade (as contrasted to retention in kindergarten or passage to a "transitional" program). These issues have been examined as part of our review of possible designs for the second year study (Chapter VIII).

Chapter VII

Other Early Literacy Interventions

In addition to Reading Recovery®, Early Literacy Learning Initiative, and full-day kindergarten, many other projects were funded through Indiana's Early Literacy Intervention Grant Program. These Other Early Literacy Intervention (OELI) projects range from programs created by individual corporations to nationally disseminated school restructuring programs. Some are one-on-one, pull-out programs, while others are whole-class based. Some are limited to a single grade level, while others cover kindergarten through third grade. Although some use nationally recognized methods with a solid research base, most have no research base. Thus, the large number of projects (39), coupled with the fact that many of them lack any research base, makes it difficult to estimate the effects. Yet, in a program using competitive grant applications, the state needs some means of comparing such a great diversity of programs to weigh costs and likely benefits. In spite of the challenges that these programs pose to evaluators, these other projects offer two advantages to schools, if not to the State of Indiana.

First, the Early Literacy Intervention Grant Program has provided schools and corporations an opportunity to develop and customize interventions to fit their specific needs. This is important because to be effective, interventions need to meet several criteria. They need to fit in with the school's overall philosophy, which will increase the teacher "buy in" and optimize teachers' experience and abilities. Interventions also need to fit within schools' local structures, i.e., financial constraints, material holdings (e.g., books), building capacities, and so forth. Finally, and most importantly, interventions need to reach appropriate student populations' needs effectively. If no conveniently packaged intervention meets these requirements for a school, customized local interventions may be one way for corporations to serve their populations effectively.

For example, Reading Recovery®, which targets the lowest 20% of achievers, excels in settings where most students achieve satisfactorily, but where a small percentage of students needs extra attention. But in settings where a much greater percentage of students need intervention, Reading Recovery® may not be a feasible approach because of the costs associated with pulling out a large percentage of students. In such a case, the corporation may need a classroom-based intervention. In fact, the widespread adoption of Reading Recovery® in Indiana seems to have provided a reasonable solution to the literacy challenge in many schools. But many teachers and administrators in Indiana have inquired about more wide-ranging approaches, an inquiry that is one of the contributing factors to the spread of programs such as ELLI and the Arkansas Model of Reading Recovery, which is a small group-based enhancement to Reading Recovery®.

The second advantage of having this diversity of projects funded in the first round of the Early Literacy Intervention Grant Program is that it provides the state and the education community as a whole an opportunity to find out more about what works. If a corporation develops a successful program, neighboring corporations or other corporations with similar philosophies, financial circumstances, and populations could benefit by adopting the interventions themselves. However, this assumes that it is possible to discern what does work, which is not easy to determine if these programs are not designed in such a way that can be evaluated.

Thus a dilemma presents itself. On the one hand, the state can choose a handful of sanctioned programs and fund them long enough for studies to be conducted. This would allow Early Literacy Intervention Grant Program administrators to concentrate on discerning and disseminating what works throughout the state. On the other hand, the state can allow corporations to use whichever interventions they believe are best for their needs or develop their own. This approach is harder to administrate and evaluate, but it puts the choice in the hands of the locality that implements the intervention.

The Indiana Education Policy Center can not resolve this dilemma. However, we can inform the discussion about both possible paths. To do so however, we must develop a way of assessing these OELI projects.

This chapter has three sections: (a) a review of the literature on two additional programs, (b) a summary of commonalties among successful early literacy intervention projects, and (c) the analysis of the survey results for OELI projects. We use these common criteria as a basis for analyzing the implementation of OELI projects.

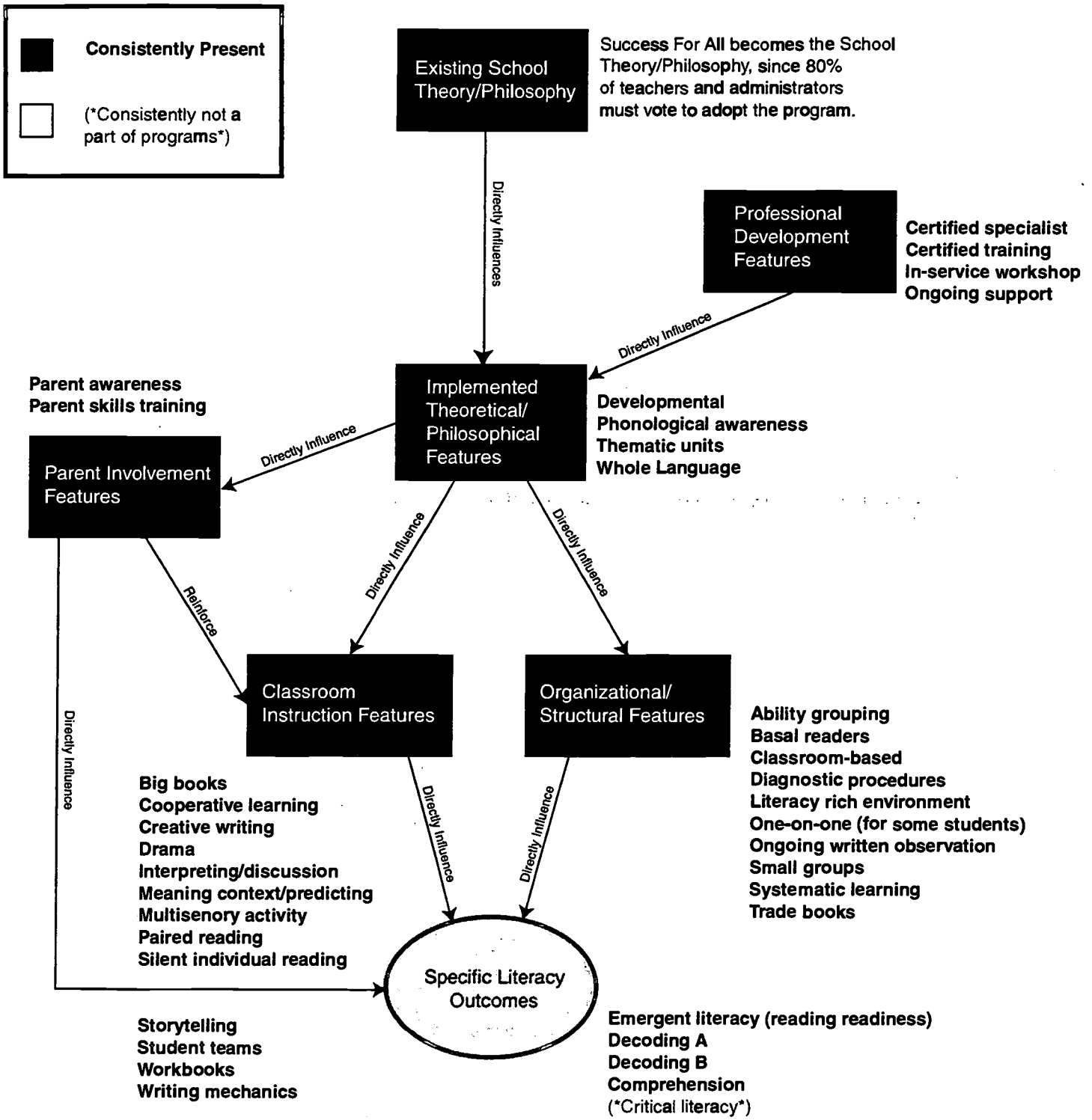
Other Early Intervention Programs

This section examines one school-wide approach (Success For All) and one classroom-based approach (Four-Block Method). These two interventions provide models different from ones discussed earlier. As with ELLI, these two programs have in common a philosophically comprehensive approach to reading instruction. As part of our discussion of both of these methods, we consider the research base.

Success For All

Success For All (Slavin, Madden, Karweit, Dolan & Wasik, 1990) is an intervention designed to provide school-wide reform. Initially, the program was field tested in Baltimore's inner-city schools and has become a leading national restructuring model. A comprehensive school reform model (see Figure 7.1), it has been adopted by schools nationally, in part because evaluations of the program continue to demonstrate its success. Its central goal is to ensure that all students master the basics of reading, writing, and in some schools math and science the first time around, thus reducing retention and referrals to special education.

Figure 7.1
Success For All Program Features
As Described in the Literature[1]



[1] Note: this figure represents only the program descriptions in the literature, and does not reflect actual implementations of this program in Indiana or anywhere else.

Existing School Theory/Philosophy

While philosophies vary across schools, Success For All ensures its compatibility with individual schools by requiring that most teachers and administrators sign their agreement to its implementation. In so doing, Success For All becomes the school's philosophy.

Professional Development Component

A Success For All implementation is led by a "program facilitator" at each site. This facilitator (a *certified specialist*) is responsible for guiding program implementation and professional development throughout the program. Professional development consists of an ongoing series of topical in-service sessions (*ongoing support*). Teachers are also provided with manuals that integrate the Success For All philosophy with daily classroom practice. In addition to organized in-service sessions, the facilitator also organizes informal sessions where teachers can share experiences and talk about specific concerns (*networking* and *ongoing support*).

Implemented Theoretical/Philosophical Approach

In its attempt to reach every child at an early age, Success For All combines several different theories in its curriculum. In kindergarten and first grade, it focuses on a *Developmental* approach, with storytelling and dramatization of literature. It continues this meaning-oriented beginning throughout the curriculum, and thus also is informed by *Whole Language*. But Success For All also is designed to teach reading strategies and especially phonics explicitly, directly, and systematically, characteristic of a *Phonological Awareness* approach. Finally, Success For All also makes use of *Thematic Units* in its curriculum, an approach that is both content-oriented and, by virtue of its multi-faceted orientation to a single topic, accessible to students with a variety of strengths and interests.

Organizational/Structural Features

Success For All restructures the schools that implement it. During most of the day, schools remain in the conventional grade format, using *classroom-based instruction*. But for 90 minutes a day, children are reorganized into *ability groups*. Thus, a first grader and a third grader may be in the same class, provided that they have roughly equivalent skills. This represents an effort to teach everyone without requiring too much one-on-one tutoring. *One-on-one tutoring* is also available, however, to those (especially kindergarten and first grade) students, who are still not achieving satisfactorily in their groups. The group uses frequent *diagnostic procedures*, approximately once every eight weeks, coupled with *ongoing written observation* in an ongoing effort to meet children's needs. One of Success For All's distinguishing features is its comprehensive approach to *systematic learning*, and it employs both *basal readers* as well as *trade books* to guide decoding and comprehension, respectively.

Classroom Instruction Features

Success For All uses as many instructional features as any program we have studied. Its developers recognized that reading and literacy acquisition is an enormously complex activity and thus built in a tremendous variety of instructional features to cover a gamut of literacy outcomes. These features include the following:

Big Books	Multisensory Activity
Cooperative Learning	Paired Reading
Creative Writing	Silent Individual Reading
Drama	Storytelling
Interpreting/Discussion	Student Teams
Meaning Context/Predicting	Writing Mechanics

These features illustrate that despite the heavy emphasis on direct instruction, an approach often espoused by Phonological Awareness advocates, Success For All emphasizes meaning and comprehension throughout. Note also the balance between reading and writing features. Writing is used to promote facility with phonological rules, addressing the need to develop strong reading sub-skills.

Parent Involvement

Consistent with every other feature category, this category receives considerable attention. Optimizing learning for children means ensuring that the home is not only conducive to learning, but also reinforces schoolwork. To this effect, the program provides guidance counselors, social workers, and the like to monitor student attendance, to provide *parent skills training* and to promote *parent awareness*. Success For All even provides family support if problems at home are interfering with a child's progress.

Literacy Outcomes

Success For All leaves little undone. It has been criticized for its unusually heavy emphasis on phonics (Tierney, et al., 1995), and the directness of instruction may inhibit the development of Critical Literacy. But Success For All is an avowed "basics" oriented program, and it targets the remaining outcomes—Emergent Literacy, Decoding A, Decoding B, and Comprehension—thoroughly.

Research Base

Success For All provides an exemplary model of how experimentation and research can be combined in a process of developing a national, replicable restructuring method. First, Slavin developed an approach which he experimented with in Baltimore. The design included a well-defined process of matching schools and students. The results of the experiments were published in government reports (NWREL, 1998; Talley & Martinez, 1998). The early results supported the claims that the method worked both for whole classroom and for the lowest 25% (the children pulled out for one-on-one tutoring).

Second, the basic experiment was replicated in other communities. The second round of experiments was examined both by Slavin and his colleagues (Slavin & Yampolsky, 1991) and by other scholars (e.g., Ross & Smith, 1994). These studies also generally confirmed the pattern of success, indicating that the program worked both for the whole classroom and the lowest 25% in early elementary.

Third, the basic methodology was adapted to meet the needs of English as a second language (ESL) students in schools with large numbers of ESL students. These experiments also generally support the pattern for whole class and lowest 25% (Dianda & Flaherty, 1995). This initial experiment indicated higher achievement for Spanish-speaking children, but not for other language minority children.

Fourth, as the Success For All model was expanded across the United States, the results were frequently reported as meta analyses, simply reporting means for treatment and control groups. These publications consistently show that Success For All is having success as a replicable restructuring method that facilitates literacy improvement (Slavin et al., 1994; Slavin, 1996; Madden et al., 1989).

Success For All is not perfect however. In particular, some of the comparisons for third grade students indicate no difference for whole classroom in treatment schools compared to control schools. Indeed, this was even evident in a follow-up study of one of the original schools in Baltimore (Madden, Slavin, Karweit, Dolan, & Wasik, 1991). However, the school-wide restructuring method continues to show success with improvement in reading across groups.

Conclusions

Success For All is a comprehensive, expensive, and in some ways radical program. Its success speaks for itself, however. It may provide an attractive alternative to ELLI, especially for schools that philosophically tend more towards Phonological Awareness than Whole Language, since though both ELLI and Success For All reach toward the common ground, neither quite reaches the middle.

This intervention illustrates two key features common to successful interventions. It combines features from many different feature categories coherently and systematically. The comprehension-oriented nature of many of the classroom instruction features, for example, is compensated for by the direct instruction embedded in many of the organizational features. This process is supported and reinforced by the parents. All three of these are directed by a set of highly trained and organized teachers, who themselves are led by a single program facilitator.

The second key feature of successful interventions is some kind of combination of phonological awareness and whole language. This is consistent with the emerging common ground, and it represents the recognition of the complexity and multifaceted nature of literacy itself.

Four-Block Method

The Four-Block Method (Cunningham, Hall, & Defee, 1991) is another classroom-based reading intervention that combines phonological and literature-based approaches

(see Figure 7.2). Recognizing the complexity of reading and that individual "fads" in reading instruction are potential sources of ideas, the developers devised an eclectic framework for teaching reading. This framework comprises the following four blocks: phonics, basal instruction, "real books" (i.e., trade books), and writing.

Unlike Success For All and ELLI, however, the Four-Block Method is not a school restructuring intervention. Instead, it is a teaching framework for use in regular classrooms. As such, it should be considerably less expensive than ELLI and Success For All. As with ELLI, it has no reliable research base, though both deploy in a logical way features used successfully in well-researched programs. Thus we would expect it to link to the literacy outcomes its features target.

Existing School Theory/Philosophy

Due to its comprehensive approach to literacy instruction, the Four-Block Method would likely fit in with most existing school settings. Indeed, it is designed to organize and build on common approaches to reading.

Professional Development Component

The method does not appear to have its own professional development component. It could be argued that it does not need one as much as other programs that take innovative theoretical approaches, since this intervention is an organized collection of previous approaches. Conversely, without professional development, the likelihood of a consistent implementation of the framework could be jeopardized.

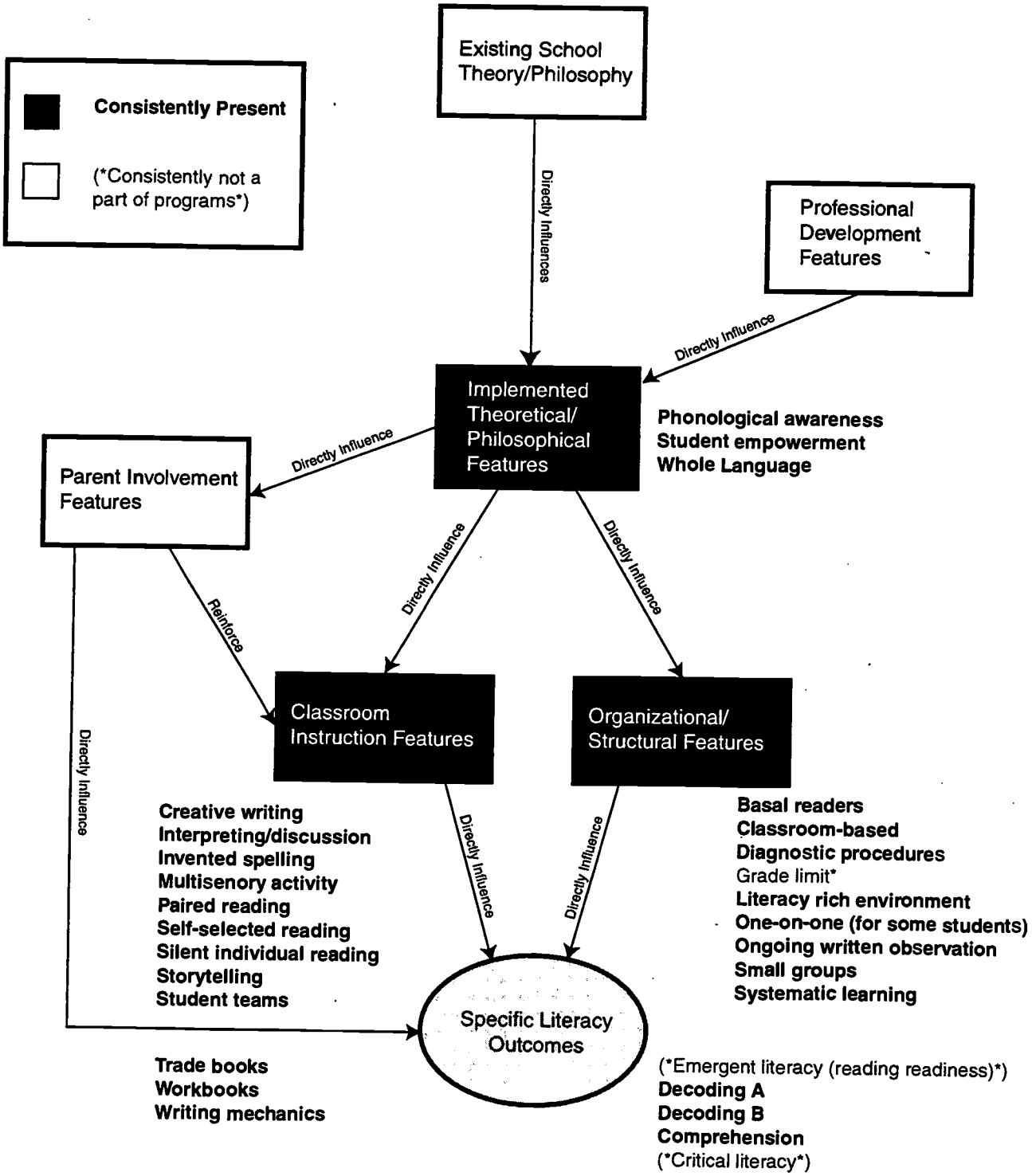
Implemented Theoretical/Philosophical Approach

The Four-Block Method's implemented theoretical approach is simply that different instructional methods yield different results, that reading is complicated, and therefore that only by using different methods (i.e., the four blocks) can the complexity of reading and literacy be passed on. It appears to have the following implemented theoretical/ philosophical approach features: *Phonological Awareness*, *Student Empowerment*, and *Whole Language*.

Organizational/Structural Features

Though it is *classroom-based*, students are broken into four groups, and in the groups, take turns at four different stations. Thus much of the work is done in *small groups*. Unlike Success For All, there is no ability grouping in the Four-Block Method: children of different abilities are put together, which leads to less ability-based social stratification (Cunningham, et al., 1991) and enables instructional features such as paired reading. As for materials, students use both *basal readers* and *trade books*, the former providing controlled content, and the latter reinforcing comprehension and motivation through *self-selected reading*. Children use *invented spelling*, a technique that emphasizes interaction with spelling rules rather than correctness. The room is a *literacy rich environment*, common to many programs. Teachers make use of both *diagnostic procedures* and

Figure 7.2
Four-Block Method (Cunningham) Program Features As Described in the Literature[1]



[1] Note: this figure represents only the program descriptions in the literature, and does not reflect actual implementations of this program in Indiana or anywhere else.

* This feature is present in some Four-Block projects.

ongoing written observation to monitor and guide students' progress. The stations themselves are organized in such a way as to provide *systematic learning*.

Classroom Instruction Features

As with Success For All, the diversity embedded in the approach is most visible through its Classroom Instruction Features:

Creative Writing	Storytelling
Interpreting/Discussion	Student Teams
Multisensory Activity	Workbooks
Paired Reading	Writing Mechanics
Silent Individual Reading	

Features such as workbooks and writing mechanics provide the systematic practice with reading sub-skills needed for accurate reading. Other features are more meaning-oriented: silent individual reading, storytelling, and interpreting/discussion. Other features, such as student teams, focus on the role of literacy in human communication, paired reading, and creative writing. Multisensory activities help internalize reading. The features thus work together to target an array of reading outcomes, and ultimately lead to supporting each other. This appears to be akin to what Clay calls a "self-extending system," in which different reading strategies accrete and support each other through practice, though such a concept is not spelled out explicitly in the literature.

Parent Involvement

Perhaps because it fits into the existing classroom setting, the Four-Block Method has no parent involvement features of its own. While schools may have existing parent involvement features, more thought could be given to integrating parents better into the system.

Literacy Outcomes

The Four-Block Method, primarily a first grade intervention, systematically and explicitly targets a number of reading outcomes: Decoding A, Decoding B, and Comprehension. It appears to take Emergent Literacy largely for granted, and its systematic and organized structure may prevent it from fostering critical literacy.

Research Base

Very little research has been conducted on this method, and what exists is of low quality. There is no between-groups comparison of students, and the design was not described well enough to allow for replicability. No statistical methods were used, and the article took an advocacy position (Cunningham, Hall, & Defee, 1991). Findings indicated some improvement in Decoding ability, though the informality of the

evaluation methods prohibits any conclusions from being drawn. Because it fits in with traditional classroom settings and has neither a professional development component nor parent involvement, the Four-Block Method could be a very inexpensive way to organize and structure reading instruction. More research needs to be done to determine the actual outcomes of the program.

Conclusions

When they designed it, the developers of the Four-Block Method emphatically avoided ability grouping. The social nature of the small groups at literacy stations along with features like paired reading may help to integrate students better than through other methods. What effect this integration will have on outcomes is hard to determine, though the possibility that this integration may somehow help maintain the gains made by weaker students needs to be further investigated. This approach is a departure from that used in Success For All, which uses ability grouping for 90 minutes a day as a means of avoiding too much one-on-one instruction.

While the lack of research makes drawing conclusions difficult, the intended links to Decoding A & B and Comprehension seem sound, and we would expect the program to affect these outcomes. More attention could be paid to professional development and parent involvement, both of which could reinforce classroom instruction.

Commonalties Among Successful Interventions

In conducting a literature review of many different programs, using our framework for reviewing literacy interventions, we noticed the emergence of certain structural patterns in the interventions that have an established record of success.[26] The patterns are all the more striking because besides them, the interventions had little else in common. The patterns can be distilled into three criteria that appear to be present in all of the proven programs (except the full-day kindergarten programs):

- *The programs' theoretical bases recognize the complexity of reading*: In all cases the programs are informed at least partially by whole language and phonological awareness.
- *The programs are well thought-out and coherently designed*: That is, program features are integrated in such as a way as to support and reinforce each other.
- *The programs have well-defined outcomes and use experimental, inquiry-based methods*: Interestingly, many of the successful programs we have reviewed were developed as school-based experiments with a focus on appropriate outcomes.

These three criteria are related. The complexity of reading, the array of literacy outcomes, and the importance of mastery of reading necessitate reading programs that are sophisticated enough to allow all students to acquire literacy. The theoretical base, or

[26]These proven interventions include Reading Recovery, Success For All, and certain implementations of full-day kindergarten. Likewise, the framework may illuminate why some programs showed less success than expected, such as other implementations of full-day kindergarten and Programmed Tutoring.

rationale for the program, is the driving force behind the intervention. Thus it must be robust enough to deal with all literacy outcomes. Second, the instructional methods and the structures they take place within must be coherently designed to implement that philosophy. Finally, there is a pattern of thinking through the designs of these experiments, which not only includes well-integrated changes in practice, but which also includes an integrated research methodology.

Complexity of Reading

To isolate and describe a single act of reading as a phenomenon is an exceedingly difficult task. To do the same for a modern American's use of literacy is even more so. For those of us who read constantly as a part of our daily lives, it is nearly impossible to imagine what it is like not to read, and we struggle to understand what is so hard about the task.

In the million-year history of language-speaking humanity, writing has been present for a mere 3,000 years. While language acquisition and writing may go hand-in-hand, as in modern college foreign language courses, writing is not natural—at least not in the way that speaking is. Moreover, writing existed for centuries before the alphabetic principle was discovered, and even today, some languages, such as Chinese, do not use the alphabetic principle at all. Once they discovered the alphabetic principle, it took the ancient Greeks another 400 years to use writing the way we do: to represent ideas. That innovation led to what scholars call the restructuring of consciousness itself, with writing the cause.

American schoolchildren must accomplish in a few years what it took humanity millennia to do: discover writing, master the alphabet. And use literacy to communicate ideas. Thus, to learn to read, children must do two things:

- They must master the alphabetic principle, and having done so, they must use it.
- They must learn to understand ideas encoded in written language, where they are structured in different ways than oral speech.

The reading wars pitted phonics advocates against whole language advocates, with the former emphasizing the alphabetic principle and the latter concentrating on ideas and writing as communication.

For decades, research on education practice has shown that in fact, both sides were right. A common ground is emerging that suggests that phonological awareness (of which phonics plays a key role) is deeply linked to reading success. At the same time, it also emphasizes that reading and writing must be meaningful and communicative. Interventions that do not take both of these points into account run the risk of failing to affect half of the literacy outcomes, and in so doing, run the risk of not teaching some children how to read.

Program Coherence

The second criterion is the extent to which the program features from across the categories support and reinforce on another. Programs such as Reading Recovery® and Success For All have features in all six feature categories. These programs built a

network of features that together provide a coherent and stable approach to literacy intervention.

Each has Parent Involvement, Classroom Instruction, and Organizational/Structural features that directly affect outcomes. The features in each of these categories are compatible with features in the other categories. For example, the prevalence of *paired reading* in Reading Recovery®, a *one-on-one* intervention makes sense. The *classroom-based* orientation of Success For All goes well with certain features such as *big books, drama, silent individual reading*, and so forth.

Supporting these primary feature categories (that is, categories that directly affect outcomes) are secondary feature categories: implemented theoretical/philosophical, professional development, and existing school philosophy features. These ensure that the program is implemented consistently and properly across classrooms. Because these secondary categories are interactive, the teachers are more likely to "buy into" to the intervention and actually implement it once the doors close in their classrooms.

We have also seen the absence of this coherence. We reviewed a number of full-day kindergarten studies that found that full-day kindergarten made no difference. This was a surprising finding, given the widely accepted claim that the earlier children are reached, the more successful certain kinds of intervention are likely to be. In reviewing the program description using the framework, we noted that the dominant features of these programs were organizational/structural features, such as *supplemental learning* and *small group instruction*. Classroom features did not change from the half-day kindergarten, and there was an absence of both professional development components and parent involvement. In fact, it appeared that the existing *whole language* and *developmental* approaches, which are standard for kindergarten, continued unchanged, with simply more time to do them. The more successful full-day programs[27] deepened the *phonological awareness* philosophy, supported by adequate professional development, adding in appropriate classroom instruction features, targeting a broader range of outcomes, while still including heavy amounts of *whole language* and *developmental* approaches.

Because reading is a complex mixture of skills, awarenesses, cognitive growth, and (for a child) novel communication, reading programs need to be sophisticated enough to address all of these aspects in a coherent way throughout the years of literacy acquisition, usually kindergarten through 3rd grade. This sophistication can be effected through a well-thought out network of features across feature categories that support and reinforce each other in a way that the whole package is greater than the sum of the parts.

Inquiry-Based Approach Focused on Outcomes

The focus on experimentation and research was an integral part to the successful programs we have reviewed. For Reading Recovery® and Success For All, the effort designs for the interventions have incorporated a research focus. For Success For All, this includes a matching of schools and students, while for Reading Recovery® comparisons

[27] For example, the Evansville program conducted a longitudinal study, that found the gains were maintained at least through the seventh grade.

are often made between students who receive service and low-achieving students who did not receive service. Further, the intent of the Four-Block program seems to be to encourage an experimental replicability. Further, while this pattern was not as evident for the full-day kindergarten programs, it was noteworthy that most of the programs that integrated whole language and phonics also had high quality research designs.

There are two ways to view this recurring pattern. One is to argue that these programs demonstrate a research base and therefore should be implemented. Another is to recognize the influence that being part of an experiment can have on subjects, especially if they know the intent of the experiment. When we recognize this additional complexity, there is a strong rationale for emphasizing teacher-inquiry as a part of literacy interventions.

Thus, it seems that many early literacy interventions use either: (a) experimental educators in a process of thinking through how their practices influence literacy outcomes; or (b) an inquiry-based approach focused specifically on improving literacy outcomes. Experimental approaches may involve a quality research design, as was the case for Success For All. However, for smaller interventions, it may be a matter of having a well-defined set of indicators, as in the guiding principle in the research component of Reading Recovery®. However, Reading Recovery® promotes teacher-inquiry, focusing on improving literacy outcomes. Thus, using an inquiry-based approach that focuses explicitly on improving literacy outcomes represents a viable alternative approach in schools that emphasize professional development over implementation of systematic reforms.

Implementation of OELI Projects

There were 39 funded OELI projects that did not fall into one of the three categories previously reviewed. This included a diverse array of projects, including one Success For All site, seven projects that had features resembling ELLI, several other sites that adapted aspects of Reading Recovery®, a few Even Start projects, a few sites using the Four-Block Method, and a diverse array of locally constructed interventions. Below, we summarize the features of these diverse OELI projects.

Linkage to Existing School Programs

One of the interesting questions about the OELI programs is that a wide variation of types of programs funded. Two patterns emerged from the analysis of responses to the question "Why did you choose the early intervention program that you chose?"

First, some of the schools indicated that they had thought about what type of early intervention program was needed in their school. Consider the following examples:

- "The staff believes that student achievement is directly related to exemplary teaching. The good old days are no longer here, if they ever were. Teachers must keep abreast of student needs and smaller class size alone will not help children become successful scholars."

- "We felt a need for a transitional program between RR [Reading Recovery®] and the regular classroom. We observed several different schools' literacy programs and adopted 2 different approaches to meet the abilities and needs of our teachers and students."

Both of these comments illustrate a pattern of thinking critically and openly about both student and teacher learning needs. We anticipate this type of local analysis can lead to interventions that do, indeed, address local needs.

Second, there were also examples of programs that were acquired as packages, or full programs. Consider the following examples:

- "This program was chosen because: 1) program design, methods, strategies supported by data and research. 2) Ongoing professional development component was available through the help of a program consultant who would visit 6 times a year. 3) Certified and non-certified para-professional could be trained to deliver services to students. . ."
- "Success For All is a research-based program that shows significant benefits for students, particularly in low income, urban schools. The grant allowed us to expand a program we already had in place."

In these and other instances, school officials were choosing previously developed intervention methods and implementing them in their schools

These two patterns both have merit. Indeed, it seems desirable to have a state program available to support schools following both of these paths toward school improvement.

Professional Development

Most of the respondents (28, or 74%) indicated that their intervention included some type of "ongoing" professional development. When asked to describe the professional development activities, many of the sites described systematic processes. A few examples:

- The Success For All site indicated that it had "described grade level meetings twice monthly, component level/technical assistance meetings, Kinder Roots training, feedback from success for all personnel."
- A site with Even Start indicated: "Networking with other Even Start programs throughout the state, special computer training related to early intervention, Head Start conference participation, Even Start Meeting."
- Another site indicated: "monthly study group meetings have been held by the National Association for Education of Young children. Each teacher made a visitation within the corporation to another classroom and all teachers spent a day observing [another school]."

These were among the many examples of survey responses that included descriptions of systematic ongoing professional development activities. In fact, most of the sites that responded affirmatively to having an ongoing professional development component described activities that suggested some type of ongoing activity.

However, there were also projects that indicated either loosely structured or no ongoing professional development. For example, one survey response indicated "teachers are expected to attend at least one local in-service training." Thus, in a few instances, the ongoing professional development activity was not purposefully linked to the program, but rather was left to the discretion of teachers making individual choices about training activities.

Thus, there was substantial variation among school corporations in the approaches they used for professional development. Some of the redefined restructuring methods, including Reading Recovery® and Success For All, integrate ongoing professional development into the basic design of the intervention. In locally developed interventions, professional development is probably not as integral to the overall intervention. In these instances, it is more of a challenge to integrate ongoing professional development into the intervention.

Theory/Philosophy/Instructional

There was a great diversity in the instructional approaches used by the schools as part of their early literacy intervention. However, as the summary analyses of responses to the survey question asking about instructional approaches in the funded intervention (Table 7.1) indicates, most of the OELI respondents indicated multiple methods. Further, more

Table 7.1
Instruction Methods OELI Projects

METHOD	NUMBER	PERCENT
Phonics, Whole Language, Developmental	9	23
Other	5	13
Basal, Phonics, Whole language, Developmental	5	13
Phonics, Whole language, Other	3	8
Phonics, Developmental	2	5
Developmental, Other	2	5
Whole language, Developmental	2	5
Basal, Phonics	1	2.7
Basal, Phonics, Whole language	1	2.7
Basal, Phonics, Whole language, Developmental, Other	1	2.7
Phonics, Whole language	1	2.7
Phonics, Developmental, ESL	1	2.7
Developmental	1	2.7
Developmental, ESL	1	2.7
Developmental, ESL, Other	1	2.7
Basal, Phonics, Whole language, Developmental, ESL, Other	1	2.7
Blank	1	2.7
Total Number of Surveys	39	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

than half indicated a combination of approaches that included both phonics and whole language, a combination that is included in the more successful intervention methods we have reviewed.

There was in fact substantial variation in the methods survey, with about every possible combination of methods indicated by at least one respondent. This extreme variation could be an indicator of a potential problem however, given that it seems important for a method to have congruence between the theory/philosophy around which the intervention is organized and the instructional processes that are implemented. Some of the most noteworthy intervention methods, such as Success For All and Reading Recovery®, have a deep integration of whole language and phonics, which may be part of their consistency and strength. However, if an intervention evolves as a combination of divergent approaches, without the coherence of overall design that seems central to successful early literacy interventions, then chances of success could be diminished.

Organizational/Structural Features

The OELI projects focused on different class levels. The number of students served by these projects and the average number of hours they were served per week are summarized in Table 7.2. Most of these programs were multi-grade level, with more than half of the respondents reporting they served 1st, 2nd, and 3rd grades. The number of students reported by the 39 respondents as served by OELI programs was 6,342. Most of these interventions appear to be whole class or even whole school, rather than pullout programs.

Table 7.2
Grade Levels and Numbers of Students Served by OELI Projects

GRADE LEVEL	NUMBER OF PROJECTS	NUMBER OF CHILDREN	AVERAGE HOURS/WEEK[1]
Pre-Kindergarten	3	195	1.06
Kindergarten	21	1568	3.09
Grade 1	33	2525	4.10
Grade 2	23	1696	3.79
Grade 3	9	275	4.33
Grade 4	3	63	2.33
Grade 5	1	20	2.5
Total		6342	

Note: [1] Represents an average of the reported number of average hours per week, rather than a weighted-average per child served.

[2] Number of surveys is 39.

Data Source: Early Literacy Intervention Grant Program Survey, 1998.

Most of the interventions indicated more than one structural feature. Indeed, more than half of the OELI group indicated (Table 7.3) emergent/early literacy strategies (67%), one-to-one tutoring (51%), and small groups (67%). Some indicated strategies related to

Reading Recovery and others indicated genuine Reading Recovery® as well. (In addition, some respondents indicated parental involvement, a feature discussed below.)

Table 7.3
Organizational and Structure Features of OELI Interventions

FEATURE	Number	Percent
Reading Recovery®	6	15
Strategies Similar To Reading Recovery	20	51
Emergent/Early Literacy Strategies	26	67
One-On-One Tutoring	20	51
Small Groups	26	67
Parent Involvement	15	38
Total Number Of Surveys	39	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

It is difficult to make any judgment about the types of organizational and structural features included in an intervention, without assessing the overall design. The central question would seem to be, how coherent are the instructional approaches with the structure of the process? The most appropriate structural approach would probably include (a) small groups as part of the strategy, if a whole class intervention were being used, (b) one-on-one if a pull out method were being used, or (c) a both of these methods, if a combined approach were used. Both of these strategies were widely used. Therefore, beyond these cursory comments, we cannot make a judgment about this combination of features from this level of data aggregation.

Parent Involvement

Parent involvement was an integral feature of many of the interventions. When asked what kinds of parent activities they included, there was a wide range of responses (Table 7.4). Most indicated school communication with parents about student progress (56%)

Table 7.4
Parent Involvement Activities in OELI Projects

ACTIVITY	NUMBER	PERCENT
Family Responsibility For Health And Safety Of Children	6	15
School Communication With Parents About Student Progress	22	56
Parent Involvement In School Activities	11	28
Parent Involvement At Home In Children's Learning	24	62
Parent Involvement In Governance Of School And Project	11	28
Other	11	28
Total Number Of Surveys	39	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

and parental involvement at home in their children's learning (62%). Other types of involvement were not frequently noted.

When asked whether the extent of parent involvement had changed, slightly more than half (53%) indicated an increase, a few indicated no change (18%), and several did not respond (30%). While none of the respondents indicated a decline in parent involvement, this was less than an overwhelming response.

Student Outcomes

There was a wide range of responses to the question, "what methods have you used to assess student progress in your funded programs?" (Table 7.5). Most respondents indicted they would use observations (85%). A majority indicated proficiency checklists (59%). Portfolios (41%) and standardized tests (28%) were indicated about a third of the time. The types of standardized instruments indicated were quite diverse, a possible reflection of the divergent grade levels served in the program.

Table 7.5
Methods of Student Assessment in OELI Projects

METHOD	NUMBER	PERCENT
Portfolio	16	41
Proficiency Checklist	23	59
Observation	33	85
Locally-Developed Tests	10	26
Standardized Tests	11	28
Number Of Surveys	39	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

It is difficult to make a judgment about these student assessment methods, without taking a detailed look at each program. It is certainly desirable to have congruence between the instructional approaches and the student outcomes assessed. We know this is the case in some instances, such as for Success For All. Indeed, they indicated "Students were evaluated every eight weeks using Success For All assessments." However, this high level of congruence does not always appear to be the case, certainly a more in-depth review is needed, but there is reason to be concerned about the potential lack of coherence in some of the OELI programs.

Costs and Effects

Given the diversity of programs funded, we would expect a substantial diversity in the types of effects, even if all of the programs had their intended outcomes. Below, we summarize the understanding we have reached about the likely effects relative to the costs of these programs, and issues that merit considering in assessment of costs and effects.

Likely Effects

To address this question, we used the three criteria as a basis for assessing the quality of the interventions. We review evidence related to each of our criteria below.

Criterion 1: Did the funded projects reflect the complexity of reading? In this regard, we conclude that most of the interventions funded through the early intervention program reflected the complexity of reading. In particular, a majority included a mixture of instructional methods that combined phonics and whole language.

Criterion 2: Did the funded projects have well-thought-out, coherent designs? This criterion focused on whether program features are integrated in such a way as to support and reinforce each other. We could not go into sufficient detail to evaluate each individual program. However, from the evidence we did review, it appears that some of the interventions combined features in coherent ways. In particular, some projects adopt approaches that are well thought-out (i.e., Success For All, the Four-Block Method, Even Start) and some of the projects that tried to adapt Reading Recovery® related methods (i.e., projects that aimed to improve congruence between whole class reading instruction and Reading Recovery®) had this type of congruence. However, several of the other projects may not have had this coherence.

Criterion 3: Did the funded projects have well-defined outcomes and use experimental or inquiry-based methods? We were particularly concerned about whether projects had appropriate outcomes measures and experimental designs. Not only was there substantial variation in outcomes measurement, but the approaches being used in many of the programs would not provide the type of information needed to measure the impact of these interventions on student literacy improvement.

Thus, there is a mixed report of the expected effects. We conclude that we would expect mixed results from this set of interventions. Some of the interventions appear to have used sound designs with a high probability of success, while others seem to have been locally designed and may lack coherence. Further, many of these locally constructed programs did not think through the ways the program features were linked to student outcomes and the measurement of these outcomes. We conclude that improvements can be made in the designs of these other interventions and suggest guidelines for doing so in the concluding section.

Program Funds Per Student Served

As reported above (Table 7.2), these interventions served 6,342 students. They served a large number of students because many of these interventions were school wide. Further students received an average of three-to-four hours of instruction a week through these interventions. The total costs to the state for the corporations that returned surveys was $1,055,088, which is relatively modest for the number of students served. The average cost per student was about $166 per student served, a cost substantially less than some of the other interventions reviewed. If we included the $110,070 for OELI projects that did not return a survey and use the estimated number of students listed on applications (847), then the state cost per student drops slightly to $162.

Assessing Costs and Effects

While there was some variability in the design of these interventions, which makes it difficult to evaluate these programs, the approaches used by schools seem to have been based on reasonably sound conceptual foundations. Further these programs had low per student costs. Therefore, we can suggest two steps that might increase the impact of OELI interventions in the future.

- First, it is important that the projects funded through OELI use sound designs. There are two approaches to this step. One approach would be to suggest a list of interventions that have sound designs and that can be implemented by schools seeking funding under the program. A second approach is to suggest a set of design principles to guide local planning for early interventions. We explore both of these questions in the final chapter.
- Second, it is crucial that a more systematic effort be made to integrate an emphasis on literacy outcomes into projects funding through OELI. Many of the funded programs did not include student assessment methods that would provide insight into the impact of these interventions on student literacy improvement. Great attention to this issue is needed.

Finally, any assessment of the costs and effects of OELI projects needs to be carefully crafted to discern the program features that were actually implemented and whether implemented features can logically influence changes in referral rates, retention rates, and ISTEP+. Clearly, the costs per student served are lower for the OELI projects than for all other types of projects reviewed. It is important to assess the impact of these interventions, however, before any judgment about relative cost effectiveness can be made.

Chapter VIII

Evaluating Literacy Outcomes

Thus far we have defined the nature of the literacy challenge and examined the likely effects of the projects that were implemented in the first year of the Early Literacy Intervention Grant Program. This provides useful information about the implementation process. However, it does not provide a true evaluation of the funded projects. In this chapter, we address the question: *What is the most appropriate way to evaluate the impact of the funded program on student outcomes?* First, we examine the project evaluation methods that are currently being used by school sites, then we examine alternative ways of constructing a state-wide evaluation.

Site-Based Evaluations

This section is structured in four parts that summarize and analyze the survey results from questions about the evaluations of the funded interventions.

Reading Recovery®

The procedures for the Reading Recovery® program include a fairly systematic approach to evaluation of the impact of the program (Clay, 1993). In contrast, the responses on a survey do not indicate a consistent pattern (Table 8.1). However, the components different respondents indicated would seem to be components of the systematic procedure used for Reading Recovery®.

Thus, for the Reading Recovery® program it appears as though there is a resource of data that is already collected and could, in theory at least, be used for a meta-analysis. We requested site-based evaluations be returned with the survey. Although a few respondents sent partial examples, no respondent returned a site-based evaluation that contained data for all of the students the respondent reported serving. Therefore, we are currently exploring alternative ways of collecting these data for systematic review and analysis.

ELLI

In spite of the strong conceptual model for the ELLI project, the schools implementing ELLI-like projects did not make adequate plans to evaluate their projects. One of the projects did not respond to the question that asked for a description of the self-evaluation plan. We briefly examine the state plans of the other three interventions.

Table 8.1
Reported Methods of Evaluating Reading Recovery®

METHOD	NUMBER	PERCENT
Reading Recovery® Procedures And Guidelines	19	38
Track Student In Subsequent Grade Levels	12	24
Test With Instrument	12	24
Parent Surveys/Evaluations/Interviews	5	10
Pre- And Post- Tests To Measure Reading Level	4	8
Compare To Control Group	3	6
Send Data To Teacher Leader/Ohio State	3	6
Longitudinal Study	3	6
Other	2	4
Number of Surveys	50	

Data source: Early Literacy Intervention Grant Program Survey, 1998.

One responded: "K[indergarten] teachers will conduct post-tests on a selected number of students. Time and money prohibit post-tests for all students." This indicates an assessment at the kindergarten year, but not a pre-test. In an earlier comment, the same respondent had indicated: "[the] Early Literacy Learning Initiative is a comprehensive program designed to enable students to read and write independently by the time they reach grade three." Perhaps the project will follow a cohort of students through the three years, but there is little evidence of a well-conceived research design.

Another respondent described the evaluation plan as follows: "The program will be evaluated by comparing student writing samples from the beginning-middle-end of the program. Parent and staff surveys will be evaluated. Students will perform at a beginning first grade level when administered the RR [Reading Recovery®] observation tasks." This statement indicates some type of systematic link to the Reading Recovery® methods, but no clear evaluation design.

Still another respondent offered the following: "Student growth relative to standardized assessments. Survey of staff and parents. Parental interviews. Review/compare number [of] books read by students-checked out of library. Student interviews and discussions. Attendance and involvement by school community in literacy related activities." This statement offers elements of a comprehensive evaluation, but not a comparison group and no clear indication of outcomes the project is intended to influence.

Thus, if these four projects are representative of the initial projects being implemented to test the ELLI concept, there are reasons to be concerned about whether an adequate research base can be developed. There is no indication of a sound internal evaluation, nor mention of an external evaluation as part of the project.

Full-Day Kindergarten

The review of research on full-day kindergarten indicates that these programs need to be systematically evaluated, if we are to increase our understanding of how their effectiveness can be optimized. Specifically, it is important that matched comparison

groups be maintained to asses the impact of the interventions. This would seem especially important for the full-day programs funded in the past year because they included features that should improve the long-term impact.

However, the responses to our survey indicate that it may not be possible to construct such surveys after the fact. Four of the seven sites indicated that they were serving all of the students identified as needing early literacy intervention, while three did not. This indicates it may be difficult to construct matched comparison groups after the school year has started. Those corporations that undertook systematic assessment apparently served all with need, rather than creating a control group. While this practical approach is more humane and educationally sound, it does not permit a post-hoc comparison of matched pairs of children or of comparable groups of children. The fact that such assessments apparently were not conducted in the other sites would also seem to preclude such an analytic approach.

When asked about how they planned to evaluate their programs, the respondents indicated that the information they collected on student outcomes would be used for this purpose. This represents a descriptive type of evaluation that is not adequate for determining whether the programs actually had an impact on reading readiness by the end of first grade.

Other Early Literacy Intervention (OELI) Projects

There was a great deal of variation among the 39 OELI sites regarding plans for evaluation. Eight of the sites provided comments indicating that the evaluation process had been systematically considered at the outset of the project. Most of these indicated reasonable pre- and post-tests for measuring progress of students. Only one of these indicated an external evaluation:

> An external evaluation has started and will continue to document the impact gains, program outcomes and progress as related to objectives. Data started and will continue to be collected through site visits, observations, anecdotal records [and] parent focus groups.

Most of the respondents indicated the types of outcomes and measures they intended to use. These respondents indicated a wide range of methods, ranging from teacher observations, to Basal tests, and student attitudes and parent involvement. However, these responses lacked any type of coherent statements about an evaluation design. A respondent who indicated that basically observational methods would be used, stated very clearly: "A detailed assessment of the program is not planned nor do we feel [it is] needed."

Summary

In summary, most of the site-based evaluations were not adequate to the task of building an understanding of the impact of the Early Literacy Intervention Grant Program. It is perhaps possible that a set of statistics could be generated from the Reading Recovery® projects that could be used to provide summative information about the

impact of these programs. However, there are few consistent methods or outcomes being used across the projects to evaluate their designs.

This should not come as a surprise, because educators usually are trained to make educational plans, but not to evaluate the results of their interventions. The good news is that many of the projects that have been implemented contain sound program features. However, improvements can clearly be made in both the design and evaluation of these projects in the future.

Alternative Approaches for Assessing Program Costs and Effects

One of the objectives of this implementation study was to suggest an approach to the evaluation of the effects of the projects funded through the Early Literacy Intervention Grant Program on student outcomes. While the present study has provided sufficient insight into the projects that were implemented to speculate about what their effects might be, it was not possible to assess student outcomes during the first year of the project. This section assesses alternative approaches to assessing the effects of the funded interventions on student outcomes. We examine four alternative approaches.

Longitudinal Studies of Students

One approach that could be used to evaluate the effects of the funded interventions of student outcomes would be a longitudinal study of students. Given that many students in funded interventions can move from one district to another, or from one community to another, it can be extremely difficult to evaluate any type of intervention aimed at improving student outcomes. One approach that has been used involves tracking cohorts of students over time. Given that third grade literacy seems to the crucial challenge in Indiana, it would be necessary to track students through at least the third grade. To construct an appropriate and sound approach to this type of study, it would be necessary to:

- Select matched samples of students for treatment and control groups,
- Follow students from the initial point of intervention through the third grade, and
- Use a common set of literacy tests for all students.

Using this approach for the Reading Recovery® program in the state of Indiana would involve selecting matched students (either from within schools or from comparable schools) and following these students year-to-year from first to third grade. If the other interventions were added to the design, the complexities of drawing the sample would increase substantially because it would be necessary to match each funded school with a comparable school (based on populations characteristics). Further, the costs of this method would be prohibitive, given the budget for the program.[28]

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[28] A non-profit group in New York is spending more than a million dollars a year to track about 2,000 students in a school choice experiment. Similar groups in Dayton and Washington, D.C. have reduced the costs by using a university-based survey research center rather than a private firm (*continued on next page*)

It may also be possible to develop some type of modified approach to tracking students that would involve schools in tracking key information on students, supplemented by information routinely collected on student test scores. However, it is anticipated that such a system would place excessive demands on schools (i.e., keeping detailed records on students would require extra staff time), be more prone to error in data collection, and may not substantially reduce costs compared to a survey approach.

School Surveys

It is possible to develop surveys that ask schools with funded projects questions that could provide insight into the impact of the funded projects on student outcomes. In addition to asking a refined set of questions about the features of programs funded, the survey would need to ask about:

- The core approach to reading and literacy instruction in the school.
- The specific program features implemented in the literacy intervention.
- Retention and referral rates by grade level for the school in current and previous years,
- Test scores by grade level for the current and previous school years (it may be possible to derive this information from extant data sources).
- The numbers of students served in each type of programs.

Such questions would provide information that could be used to document changes in retention, referral, and achievement. However, it would be difficult to make causal attributions unless similar information were collected from matched schools. Therefore, it may desirable to construct a survey on literacy programs that could be used for a sample of all schools in the state. If this approach were used, then a similar base survey about school characteristics and student outcomes could be sent to both funded and non-funded schools, while supplemental questions about the funded project could be included for schools receiving grants.

This approach is feasible, but has a few limitations. In particular it is difficult to assess the effects of the diverse array of interventions being funded. The information on student retention and referral would seem to apply to all of the funded programs. For example, the research literature on Reading Recovery® claims to reduce these rates (Lyons, 1994). However, the data on school achievement test results would seem to pertain more to class level and school wide interventions than to pull-out programs such as Reading Recovery®. Indeed, the number of students served in Reading Recovery® seems too few to influence overall school scores.

Thus, while the survey approach has some advantages because its costs are more constrained, it does not represent an ideal way to assess the effects of early literacy interventions. However, if a diversity of outcome measures were used—achievement as well as retention and referral—then it should be possible to discern the impact of

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to track the students. However, the projects in these cities cost about $300,000 per year in each city and are not tracking the number of students involved in Indiana's Early Literacy Intervention Program.

different types of intervention strategies. However, it is desirable to include funded and non-funded schools in the survey to permit comparisons.

Extant Data Sources

Another alternative approach might be to combine extant data sources with application information. It is possible to use this approach to compare funded and non-funded schools. In fact our analyses in Chapter III illustrate a potential use of this approach. The major limitation of this approach is that it is not possible to gain insight into what schools actually implemented. Thus, while it is economical and unobtrusive, it does not provide sufficient insight into the impact of funded programs.

Analysis of Site-based Evaluations

Theoretically, site-based evaluations can be analyzed as part of a state-wide evaluation. Earlier in this project we explored this possibility for Reading Recovery® and this approach may have merit for this program. Indeed, we think that site-based evaluations should be completed and collected. Indeed, the site-evaluation component of the Early Literacy Intervention Grant Program should be strengthened for these evaluations to be useful. At a minimum, all sites should set specific goals for their projects and include evaluations that include summary information of outcomes. A two-tiered evaluation strategy is needed.

- *Descriptive evaluations for small grants.* At a minimum the site evaluations need to provide descriptions of the projects that were implemented, information about retention and referral rates, and information on standardized literacy achievement tests (for students in funded programs and similar students who did not receive benefit of the intervention). Even schools receiving small grants should be able to report this summary information on the progress of students. For schools with one-on-one interventions this should include a systematic matching of students who receive the interventions with students who did not, along with pre- and post-tests results on appropriate measures for both groups of students.
- *Site-based evaluations for large grants.* For schools that receive more substantial literacy improvement grants, an experimental design is strongly recommended. For schools undertaking school-wide interventions, then matched schools could be used. This method would involve collecting both pre- and post-tests in both the treatment and control schools. As an alternative schools may decide to use an inquiry-based approach that involves: (a) assessing problems based on prior performance; (b) designing an intervention with specific goals for improvement in literacy outcomes; and (c) assessing the results of the intervention relative to intended outcomes.

If this two-tiered strategy were used, then it may be possible to generate a set of site based evaluations that could be used to document the impact of the program. However, it would also be desirable to supplement these with an analysis of school surveys.

Conclusion

The current site-based evaluation strategies being used by schools funded in the Early Literacy Intervention Grant Program will not provide adequate information to document the impact of the early intervention program. Two steps are recommended for improving the type and quality of information available on the impact of this important program.

First, a survey of both funded and non-funded schools should be developed for and administered during the 1998-99 school year. The base survey should ask about the approach to literacy used in the schools, as well as a set of supplementary questions about funded projects. The supplementary questions should ask specific questions about the implemented programs.

However, any evaluation should use caution when comparing programs. It is crucial that evaluators distinguish the types of outcomes that different types of intervention projects can feasibly influence. For example, it is not possible for a full-day kindergarten program implemented in the 1997-98 school year to influence third grade reading achievement that same year. Nor is it likely that a pull-out program influencing reading by five children, as is the case with many of the Reading Recovery® projects, would have a measurable effect on a school-wide average score three years latter. Rather, care should be taken to use appropriate outcomes to assess the various intervention strategies that the state has funded.

Second, refinements should be made to the evaluation process, requiring all schools to meeting a minimal descriptive standard in an evaluation of funded projects and requiring schools receiving large grants to develop experimental designs or inquiry-based intervention models. Further, technical assistance should be made available to support both planning for the intervention and planning for the evaluations. These issues are discussed further in the next chapter.

Chapter IX

The Early Literacy Intervention Grant Program

In the 1997–99 biennium, the state of Indiana implemented the Early Literacy Intervention Grant Program. The program has great potential for:

- Meeting the early literacy challenge in Indiana by increasing the percentage of students who are reading at grade level by the end of third grade and, as a result, reducing retention and referral to special services,
- Providing professional development opportunities for early primary school, through Reading Recovery® and other interventions, and
- Contributing to the general understanding about strategies for improving early literacy in Indiana.

The analysis of implemented programs indicates that this promise is being partially fulfilled, but steps can be taken to increase the impact of this important program. Based on the analysis of the implemented projects (Chapters IV–VII) and the review of evaluation methods and approaches (Chapter VIII), we can recommend strategies for improving the program in the next biennium (1999–2001). This chapter considers: (a) the application and award processes, (b) facilitation, and (c) evaluation.

Application and Award Process

This study was designed after the Early Literacy Intervention Grant Program was implemented. Based on our review of the literature on early intervention and the analysis of implemented projects, it is possible to recommend strategies for:

- Targeting the program funds (and funded projects) on students with high needs, and
- Selecting and developing high impact projects.

Targeting the Program

There are two competing interests for the Early Literacy Intervention Grant Program, which complicates efforts to target program funds on students with the highest need. One approach argues for funding schools with concentrations of high need students. The other argues that some students in all schools can have trouble learning to read. The program

administrators for the IDOE's early literacy program need to be concerned about both interests.

Historically, the federal government has provided funds for literacy improvement through the ESEA Title I program. This program has targeted schools with high percentages of students in at risk situations, i.e., low incomes. This approach to targeting assistance recognizes the goal to reach schools with high percentages of students with learning needs. When we used this criterion to assess the distribution of the first year funds for the early literacy program, it appears as though an improvement in targeting funds is possible.

The alternative approach to targeting funds is to recognize that some students in all schools can have difficulty learning to read. If this concept were used to target funding, we would expect funds to be distributed across all types of districts. When we use this approach to assessing the distribution of funding, then funds from the Early Literacy Intervention Grant Program appear to have been fairly distributed across different types of corporations. In particular, the funding for the Reading Recovery® Program was relatively well distributed across diverse types of school corporations.

In Indiana, the literacy challenge takes two forms. First, while the state ranks high compared to other states on fourth grade reading achievement, there are corporations with high need. In particular, schools corporations in metropolitan areas have lower average literacy scores in the third grade. Thus, it is important to target some portion of intervention funding to districts with higher needs, especially funding for programs that emphasize school-wide interventions.

Second, Indiana has experienced recent growth in the percentage of students who are referred to special programs because of learning disabilities. Further, these referrals can be made in all types of corporations. Intervention programs with a potential for reducing these referrals, such as Reading Recovery®, merit consideration in schools with average or better achievement, under the assumption that all schools have some students in need of supplemental assistance.

The current structure of the Early Literacy Intervention Grant Program recognizes these dual interests. However, ELIGP can be refined to target both challenges. We have three specific recommendations about targeting the program to address the literacy challenge.

First, supplementary support through Reading Recovery® training (or training for other approved intervention methods) should be generally available to all school corporations. The current balance of funding for Reading Recovery® provides a new incentive for schools to address the literacy challenge (e.g., support for professional development) while also encouraging fiscal responsibility. By subsidizing professional development for Reading Recovery® teachers and trainers, the state provides an incentive for schools to address their own literacy challenges. However, schools must find resources from existing revenues to support the ongoing operation of Reading Recovery®, including funding teachers for the time needed to work one-on-one with a few students. This feature of the program encourages fiscal responsibility. Because

schools have a limited capacity to make these arrangements from existing funds, it is unlikely many schools would abuse this opportunity.[29]

Second, the state should target funding for the other early intervention projects on those schools facing a greater literacy challenge. There are two aspects of the literacy challenge: the need to improve literacy achievement and the need to reduce referrals to special programs and retention. Therefore, priority should be given to funding schools with lower-than-average achievement and/or higher-than-average special education referral rates. Schools with higher referrals and lower test scores should receive a higher rating in the calculation of funding need, helping to target funds for school-wide projects on schools with high need. However, all school and corporations should be eligible to apply.

Third, funds for other early interventions should be limited to classroom-based and school-wide projects, rather than used on pullout projects. If funding is to be targeted on schools with greater need, then classroom-based strategies would seem appropriate and desirable. This approach has several advantages: it would be consistent with recent developments in the school-wide portion of the federal Title I program. It would increase the chances of improving school-wide literacy scores. Finally, it has a lower cost per student than pullout programs.

Increasing Program Impact

The educational research community is continually conceptualizing and testing new and better methods for intervening in early literacy improvement. It is important that the state of Indiana target its funding to take advantage of this interest if not to facilitate improvement in these processes. Our recommendations focus on: (a) generally available programs, and (b) targeted school-wide programs.

Generally Available Funds

If the history of education reform teaches us anything, it is that an ongoing need for targeted literacy intervention exists in most schools. Some children in virtually any school population can have trouble learning to read. It is appropriate and desirable for the state of Indiana to support professional development that supports these interventions. We make two specific recommendations regarding the continuing development of these interventions.

First, the training for Reading Recovery® should continue to be generally available on an as-needed basis. While there are reasonable criticisms of Reading Recovery® (e.g., Snow, et al., 1998), the program has a substantial research base and is building a strong foundation in Indiana. Further, the current level and structure of support seems advantageous both to schools and the state.

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[29] Theoretically, schools could train a new teacher every year or two, then move this skilled teacher back to the classroom. However, because teachers in training must work with students, the state also benefits from this approach, as our analysis of state costs and effects illustrates.

Second, the Indiana Department of Education should encourage other universities to facilitate literacy interventions through a systematic professional development process. The Reading Recovery® program has established two rate structures: one for full-time training of trainers, the other for in-service teacher training. Other universities should be given an opportunity to develop interventions within a similar cost structure. However, such programs must be carefully planned and pilot-tested through an experimental, research-based approach. Therefore, we do not expect new partnerships to require substantial new funds. As one or more of these programs develop, schools will have greater choice in approaches to address the literacy challenges most critical to them.

Therefore, the IDOE should be encouraged to entertain proposals from universities in the state for training programs that could facilitate school-based interventions with children having difficulty learning to read. Initially these projects should be small, with training restricted to a limited number of trainers on campus and/or to the training of a small number of practicing teachers. Further, it is crucial that these programs include a plan for building a research base. This approach would target professional development by addressing the critical literacy challenge in elementary schools. This approach has four advantages for the state:

- It supports the continued development of the nationally-recognized Reading Recovery® center at Purdue University.
- It provides an incentive for other universities to invest faculty time and resources in support of professional development aimed at improving early literacy.
- It provides mechanisms for ensuring that the new professional development programs have or will build a school research base.
- It creates competitive market forces in the state that can stimulate research-based innovation through school-university partnerships.

Classroom-Based and School-Wide Interventions

The state's Early Literacy Intervention Grant Program initiated school-wide reforms aimed at improving early literacy. This program emerged in Indiana a full year before the Federal Comprehensive School Restructuring Demonstration (CSRD) was implemented (starting in Fall, 1999), commonly know as the Obie Porter Program. Thus, the state of Indiana had exceptional foresight in taking this bold step.

However, our review of the school-wide projects implemented across the state raises some questions and concerns. A few well-designed programs were implemented, but most seem to lack the coherence they need to have a substantial impact on literacy improvement. In contrast, CSRD has encouraged states to develop approved lists of programs, from a set that has been judged to have an adequate national research base.

Our review of the literature has taken us a step further than most reviews of educational improvement projects. We examined specific features of programs and how they link to specific literacy outcomes. The outcomes we considered also link to the components of most standardized early-literacy/reading achievement tests. In the process, we developed three criteria for school-wide literacy interventions:

- Criterion 1: *They must recognize the complexity of literacy acquisition.*

- Criterion 2: *They must have a coherent, cohesive, and comprehensive approach to intervention that integrates theory and practice.*
- Criterion 3: *They must have (or contribute to the development of) a solid research base and/or use an inquiry-based approach.*

Given these criteria, it is possible to suggest an approach for the continued development and refinement of a school-wide grant program. We make three recommendations.

First, the IDOE should develop an approved list of research-based early literacy interventions. The list of approved projects for CSRD can be a starting point for the new list of approved school-wide literacy improvement programs. However, we recommend the criteria noted above be used to develop a more refined set of approved programs. Of the programs we have reviewed, Success For All is one that would meet these criteria. Accelerated Schools may also have a sufficient research base (five studies were cited in NWREL, 1998: Knight & Stallings, 1995; McCarthy & Still, 1993; State of Louisiana Board of Elementary and Secondary Education, 1997; North Carolina Partnership of Accelerated Schools, 1996; English, 1992).

Second, another list of programs can be developed from those that have sound design but currently lack a sufficient research base. Of the programs we have reviewed the Four-Block Method and the Early Literacy Learning Initiative would seem natural candidates. These programs are strong conceptually, but lack a sufficient research base. The programs approved in this second list should include a well-defined research component, consistent with our recommendations on evaluation in the previous chapter.

Third, some schools should be encouraged to develop their own unique projects, especially if they include appropriate inquiry-based methods. This recommendation is influenced by our review of full-day kindergarten programs. Five of the seven funded projects included features that seem necessary to produce a sustained impact through the end of third grade. This type of local innovation should be encouraged. However, these seven projects lack sufficient evaluation designs. There was no apparent control group, nor a plan to assess long-term effects. Therefore, this type of innovation should be strongly encouraged, but more emphasis should be placed on experimental design. This approach has three advantages.

- It encourages the schools with high needs to focus on literacy improvement.
- It provides evaluative information that the IDOE can use to document the results of the Early Literacy Intervention Grant Program.
- It contributes to the overall learning and professional development processes in Indiana education.

Fourth, the larger school-wide projects should be funded for a two-year period. This will facilitate systemic change, as well as provide sufficient time for schools to complete experimental designs.

Facilitation

The strategy recommended above requires planning and facilitation, but holds the potential of substantially improving the impact of the Early Literacy Intervention Grant Program. Specifically, schools will need support in the development of exemplary proposals. We have three recommendations regarding the IDOE's facilitation of the developments recommended above.

First, the Reading Recovery® *Program at Purdue University should continue to facilitate planning for Reading Recovery and start pilot testing the Early Literacy Learning Initiative.* Purdue has demonstrated an exemplary ability to facilitate training for Reading Recovery®. This continued development of the center should be encouraged to continue these efforts. In addition, Purdue should be encouraged to work with a small numbers of school to field test the ELLI Program. These projects should include appropriate experimental designs. Indeed, it may be appropriate for Purdue to provide research assistance on these projects, which would strengthen the research component of the Purdue's Reading Recovery® center.

Second, the IDOE should be encouraged to facilitate centers (or other school-university partnerships) for professional development (ELIGP, Part A) and the classroom-based components of the Early Literacy Intervention Grant Program (ELIGP, Part B). It is important that the universities in Indiana continue to work on the development of well-designed, research-based school improvement programs. By facilitating a few, well-conceived and designed centers or school–university partnerships, the IDOE will:

- Help create a network that supports professional development,
- Facilitate improvement and renewal in teacher evaluative programs,
- Foster improvement in early literacy instruction, and
- Enable universities in Indiana to continue their leadership in educational research and improvement.

Third, the IDOE should provide workshops for schools interested in developing proposals for school-wide literacy improvement through the school-wide component of the Early Literacy Intervention Grant Program. These workshops should introduce schools to possible approaches to literacy improvement, as well as provide guidance and coaching on the evaluation design.

Evaluation

The IDOE needs to continue its evaluation efforts on the Early Literacy Intervention Grant Program. Based on our analyses we have two recommendations:

First, the IDOE should require development and submission of site-based evaluations as part of the program monitoring process. More specifically, we recommend that schools included in the general program (e.g., training for Reading Recovery® and other intervention methods) and small school-wide projects be required to submit an annual descriptive evaluation report. In addition, schools funded in larger school-wide projects should be required to complete and submit external evaluation reports on internally

generated evaluations developed through an inquiry-based process. These larger projects should implement a complete evaluation report for the two-year project.

Second, an external evaluator should conduct a survey of funded and non-funded schools along with a systematic analysis of site-based evaluations. This approach will best facilitate the development of information that can inform the literacy improvement process in schools, school-university partnerships, and at the state level.

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Appendix A

A List and Description of Program Features By Category

In addition to organizing the features into the five categories, we describe each feature using a four-point analysis.

- In the *definition* section, the feature is described in sufficient detail to define it, without considering effects, implications, or costs.
- The *description* section allows additional material relating to the feature to be presented: this material may include examples, implications, historical background, a short list of features it is often associated with, and any other information helpful in understanding its likely costs and intended effects.
- The *costs* section spells out what kinds of costs are likely to be associated with the feature, how flexible those costs are depending on implementation, etc.
- The *outcomes* section states which outcomes this feature is most commonly associated with.
- Finally, the *example(s)* section indicates in which program(s) the feature is most prominent. Descriptions of programs, from which program features may be derived can be encountered in the following books: Tierney et al., 1995; NWREL, 1998; Talley & Martinez, 1998.[30]

The advantage to analyzing programs on the level of features is that this method provides a specific and comparatively precise way of linking interventions to outcomes. It enables a logical prediction of the likely effects of an intervention, which can then be verified by consulting empirical research. Ultimately, this analysis could help planners choose, design, and adapt interventions to fit their schools' needs.

Professional Development Features

Professional development is gaining increased recognition as a vital aspect of schools and interventions. In short, the effect of professional development is the increased likelihood that teachers at a site consistently integrate the school's existing philosophy in general, and an intervention's theoretical base in particular, with actual classroom

[30] References cited in the appendices are listed in the Reference List, beginning on page 109.

activities. It is thus tightly linked with the theoretical base, and often times the two inform each other, especially in situations where schools develop their own programs.

Without a site-based, ongoing professional development component, the successful implementation of an agreed-upon theoretical or philosophical approach is threatened. This is true of any group of professionals with a common set of goals, but it is especially important in schools where once teachers are behind the closed doors of the classroom, they teach according to their best judgment. Professional development will enhance the "buy into" effect, making teachers believe more in what the school as a whole is doing, especially when they perceive themselves participating in their school's values. Professional development also gives teachers venues of addressing concerns, asking questions, and talking about successes and problems. Without it, teachers, classrooms, and ultimately students may not get the support and structure that they need.

Because professional development is a part of the foundation of a program, it affects outcomes only indirectly. Professional development defines and maintains the theoretical base, which in turn affects and even generates specific primary features, that is, classroom instruction, organizational/structural, and parent component features. Thus, while it is crucial to outcomes, it does not directly affect them. For example, a "certified specialist" feature is not in itself likely to affect Decoding A. In a Success For All school, however, a certified specialist feature will help teachers carry out the theoretical base through classroom instructional features, and the teacher practicing those features will directly affect Decoding A. A certified specialist in a full day kindergarten program, however, will ultimately affect Emergent Literacy, and a Reading Recovery specialist will likewise ultimately affect Decoding B. The certified specialist component, then, helps teachers affect the outcomes they are targeting.

Certified or university training

- *Definition*: Intervention requires some sort of official affiliation, effected either through university attendance or another certification process.
- *Description*: Creating this threshold to entry has the dual effect of allowing only committed school systems to participate and ensuring a certain degree of consistent background among implementing schools—namely, the certification process. Both of these effects should make implementation across schools more consistent and improve the long-term solvency of the program.
- *Costs*: Very high.
- *Outcomes*: Indirect.
- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998); Success for All (Slavin et al., 1990).

Certified specialist

- *Definition*: As a part of the intervention, a certified specialist comes to the school to help implementation by training teachers and other participants.
- *Description*: The certified specialist often performs the role of a consultant, ensuring that program implementation is in accordance with the official program design.
- *Costs*: Depending on the degree of involvement and duration of the commitment, this feature can be moderately to very expensive.
- *Outcomes*: Indirect.

- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998); Success For All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991).

In-service workshop

- *Definition*: An expert in a particular topic gives a workshop for the teaching staff.
- *Description*: A long-time staple of professional development in schools, this feature has come under fire for not being followed up and thus not having any sustained or meaningful impact. Placed in a more comprehensive program of professional development, however, such workshops could be of benefit.
- *Costs*: Inexpensive, since they are one-time-only events, requiring funds to pay the presenter and teacher salaries for one session.
- *Outcomes*: Indirect.
- *Example(s):* Success for All (Slavin et al., 1990).

Networking

- *Definition*: Teachers meet with teachers from other sites participating in the same intervention.
- *Description*: Networking enables schools to maintain a dialogue with each other about the intervention—its effects, problems, etc. This feature provides greater consistency of implementation across a region and increases the net of support available to teachers.
- *Costs*: With the increasing availability of e-mail, the circulation of specialists throughout a region, and the convenience of other methods of communication, such as traditional mail, phones, and faxes, networking has never been easier or cheaper. Its primary expense is the amount of time teachers spend actually doing it.
- Outcomes: Indirect.
- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998).

Ongoing support

- *Definition*: Teachers have regular ongoing support from any number of sources about the intervention.
- *Description*: This may or may not include a certified specialist, but what it does involve is regular, ongoing professional development time devoted to the intervention—questions, peer observations, discussions, training on relevant topics, etc. An example is Reading Recovery's regular meetings with Reading Recovery teachers and trainers, which ensures consistent implementation of the various Reading Recovery features.
- *Costs*: High.
- *Outcomes*: Indirect.
- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998); Success for All (Slavin et al., 1990).

Implemented Theoretical/Philosophical Features

The features in this category have an indirect relationship with outcomes, but they are vital in both determining which other features become a part of the program, and they maintain the program's integrity over time by establishing clear priorities and specific methods. Without a strong theoretical base, programs are more likely to come and go, having little long-term effect. The reason for this dissipation is that without a theoretical base, it is difficult for teachers all to use the same methods with the same emphases,

classroom to classroom, year to year. Consistent long-term implementation of a program requires ongoing communication, which requires professional development, and some kind of intellectual structure, which the theoretical base provides.

Most existing interventions, such as Reading Recovery, Success For All, and the Four-Block Method have a strong theoretical base. Professional development time becomes a necessary factor in communicating that theoretical base to teachers and teaching them how to implement it (i.e., through other features, such as classroom instructional methods, etc.). For those schools that create their own interventions, a theoretical base is equally important.

As with features in the Classroom/Instructional category, Philosophical/Theoretical features have no costs associated with them directly. Having a Whole Language approach costs nothing until it is implemented through other features, and then it is those features—trade books, parent literacy training, etc.—that have costs.

Developmental:

- *Definition*: This theory approaches teaching literacy acquisition through the *child's* concepts of grammar and linguistics.
- *Description*: A child-centered model based initially on the work of Piaget, and more recently the work of Russian psychologist Vygotsky has become influential. Rather than teaching literacy according to a "correct" or "transmission" model, it exercises and guides children's metacognitive strategies, helping children develop adult literacy on their own through guided experimentation and trial and error. Teachers try to keep students within what Vygotsky termed the "Zone of Proximal Development," a place where the students are in familiar enough territory to function, but where enough is unfamiliar that they are stimulated to grow. Note: this approach differs from a Student Empowerment approach in that it is still teacher-led. The hallmark of this approach is the interactivity between teachers and students as they negotiate the direction of learning. On the whole, this approach is largely consistent with most other approaches and indeed is a staple of the American education system.
- *Costs*: NA.
- *Outcomes*: Emergent Literacy, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991); Success for All (Slavin et al., 1990); ELLI (OSU, 1998); Full Day Kindergarten (Humphrey, 1988).

Learning community:

- *Definition*: An institution-wide effort to make all individual learning occur within a community environment, where individuals perceive themselves as members of a group, and in which other individuals are seen as peers and potential supporters.
- *Description*: This theory attempts to partially dismantle the gap between educators and students, with teachers participating in the learning and students participating in the direction of the learning. Advocates also insist on the collaboration of parents, principles, and administrators, a collaboration which is designed to ensure the common sense of purpose and growth. A functioning learning community enhances the chances of a consistent and coherent school philosophy.
- *Costs*: NA.
- *Outcomes*: Emergent Literacy, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* ELLI (OSU, 1998).

Phonological awareness:

- *Definition*: A systematic approach to teaching directly the relationships between oral and written language.
- *Description*: Phonics is the most famous component of this approach, and the two are often treated synonymously in popular parlance. But Phonological Awareness is a broader category than Phonics, which properly is the relationship between letters and sounds. Phonological Awareness encompasses all aspects of the relationships between sounds and written language. For example, the knowledge that "The cat is running" has four words (many young children will say there are two: "thecat" and "isrunning") is a kind of phonological awareness. More generally, children must be able to distinguish between sentences, words, syllables, and phonemes (individual sounds) before they can even use Phonics or for that matter decode. Because phonological rules are established—that is, some utterances are correct and others are not—and because phonology is so complex, advocates of this approach argue that phonology should be taught systematically and directly, rather than indirectly. Its rules should be taught, not discovered. As one of the two great contenders in the reading wars of the past several decades (Whole Language is the other), Phonological Awareness has gained momentum especially in the early stages of reading instruction. (See also Whole Language.)
- *Costs*: NA.
- *Outcomes*: Emergent Literacy, Decoding A.
- *Example(s):* Reading Recovery (Clay, 1991); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); Full Day Kindergarten (Humphrey, 1988).

Self-extending system:

- *Definition*: The program attempts to instill in children the rudiments of a system of learning that each student will take over.
- *Description*: The ultimate goal of M. M. Clay's method and one of the key theories driving Reading Recovery, this system will empower the student to continue expanding metacognitive strategies and horizons, enabling Vygotskian development to take place guided increasingly by the student's desire and ability, rather than by instructor direction. The approach is consonant with both a Whole Language and Developmental philosophies, but it more directly addresses the need for a bridge between Decoding A and Critical Literacy. That bridge is Decoding B, specifically designed for this purpose: to build a network of strategies of increasing sophistication aimed at meaning getting. It combines the instructional paradigm of word attack with the meaning orientation of Whole Language, resulting in what might be called, "meaning attack." With this in place, the implementation of a student empowerment approach should become less risky.
- *Costs*: NA.
- *Outcomes*: Decoding B.
- *Example(s):* Reading Recovery (Clay, 1991).

Student empowerment:

- *Definition*: Students are encouraged to take charge of their own education.
- *Description*: Students can take charge of their education through features/activities such as selecting their own reading materials, devising their own written assignments, creating their own interpretations, etc. The intended benefits of this feature are as follows: (a) students begin to love learning, because it is important to them; (b) students learn how to learn, because they are given opportunities to do so and because they have the motivation to do so. In short, education becomes much more meaningful, and students push themselves to levels of achievement not likely in a less student-centered approach. By fostering responsibility early on, students are also prepared for life, where they will be responsible for their conduct and performance in jobs, marriage, etc. The possible downside of this approach is the chance that students will pursue only topics of immediate interest at the expense of less interesting but equally important topics, that they will

choose activities that are below or above their skill level, that they will not teach themselves how to learn well, and/or that the benefits of this method are hard to measure, since students in part develop their own curriculum. Note that this approach is highly dependent on level of implementation, which requires significant teacher training, planning, record-keeping, etc.

- *Costs*: NA
- *Outcomes*: Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998).

Thematic units:

- *Definition*: A deeply meaning-oriented approach, this approach teaches literacy (and a great number of other intellectual disciplines) within the context of a theme, e.g., Ancient Egypt.
- *Description*: This feature illustrates that some theoretical/philosophical approaches are less fundamental and more instruction-oriented than others. Where a Developmental approach touches on nearly everything in a student's early career, Thematic Units is more concentrated. Nevertheless, it is a theory because it generates features in several other categories. It usually leads to a multidisciplinary, multimedia, content-driven curriculum. It is commonly associated with Whole Language, though it could work well also with several other approaches.
- *Costs*: NA.
- *Outcomes*: Comprehension, Critical Literacy.
- *Example(s):* ELLI (OSU, 1998); Success for All (Slavin et al., 1990).

Whole Language:

- *Definition*: Whole Language emphasizes that all communication, including written, must be meaningful, and any approach to teaching literacy must be meaning-oriented.
- *Description*: Whole Language is one of the two great contenders (the other is Phonics, now Phonological Awareness) in the decades-old reading wars. As a philosophy, it rejects "unnatural" and "boring" approaches to teaching reading, such as Phonics and basal readers, in favor of holistic approaches. These specific approaches usually include Phonics, but it is usually taught in a more meaning-oriented and less systematic context. At the same time, it emphasizes that literacy is acquired through a complex psycholinguistic process, which is often best helped along through indirect and environmental means rather than through more direct methods of instruction. (See also Phonological Awareness.)
- *Costs*: NA.
- *Outcomes*: Emergent Literacy, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991).

Organizational/Structural Features

Features in this category have to do with the way the intervention is physically and materially organized. Features that limit the age or ability of participants, the placement of chairs in the room, and the types of books used are all in this category. They directly influence outcomes as well as classroom instruction features.

The features in this category are a key source of costs in interventions, because the structure or organization of a program determines teacher time, paraprofessional time, materials purchasing, physical remodelling, etc.

Ability grouping:

- *Definition*: Groups of students are selected on the basis of shared ability, rather than age or other factors.
- *Description*: Ranges from a far-reaching radical restructuring of a school, as in Success For All, where students switch between traditional age classes and ability-based classes, and simply identifying a problem that a number of students have and temporarily pulling them together long enough to address the problem.
- *Costs*: depending on the size of the groups, this feature could have a variable impact on teacher time. Small groups might require extra teachers or paraprofessionals.
- *Outcomes*: Decoding A, Comprehension
- *Example(s):* Success for All (Slavin et al., 1990).

Basic reading ability assumed:

- *Definition*: Program takes for granted a basic ability to read simple texts and is designed to improve and deepen that ability. It also assumes Emergent Literacy or Reading Readiness.
- *Description*: This is a feature of targeted interventions, such as Reading Recovery, which are not comprehensive school reforms, but rather which seek to limit eligibility, entry, instructional methods, and outcomes to maximize a certain kind of impact.
- *Costs*: This feature is essentially an assumption, and as such, is free. Its existence may bring down the cost of a program, in fact, by limiting its operations, and thus expenses. For example, with this assumption, the intervention does not have to provide for emergent literacy materials, such as a literacy rich environment, early reading books, etc. Of course, those operations will have to be compensated for elsewhere.
- *Outcomes*: Decoding B, Comprehension.
- *Example(s):* Reading Recovery (Clay, 1991).

Basal readers:

- *Definition*: Program uses a series of graded readers, usually constructed with controlled vocabulary and syntax.
- *Description*: Basal readers have a key advantage and a key disadvantage. The advantage to basal readers is that they help control instruction by making it consistent, predictable, and comprehensive (e.g., they ensure children read from all genres and read from books of increasing difficulty). They have also been bitterly criticized by the Whole Language movement because they take choice away from children and allegedly drain the pleasure out of reading. The risk of going to a more choice oriented reading program is that children will read only from one genre (e.g., short fiction) or will read only easy books. Cunningham (1991), the originator of the Four-Block Method advocates mixing the two approaches, fostering a love of reading with comprehensiveness of reading instruction. Basal book publishers have also recently striven to make stories more natural and interesting to students, in spite of the controlled vocabulary.
- *Costs*: Purchasing the books from the publisher can be a significant expense. Mitigating this expense are the long-term use schools can get from the one-time expense, the fact that schools already budget for books, and the fact that teachers will likely require less preparation time, since basal readers usually have a pre-scripted course. Combining basal readers with a more student-centered approach, however, can add significant costs as this combination will also require the purchase of trade books.
- *Outcomes*: Decoding A, Comprehension.
- *Example(s):* Four-Block Method (Cunningham, 1991); Success For All (Slavin et al., 1990).

Child-initiated learning centers:

- *Definition*: Curricular/topical materials are kept in a central area, allowing children to choose the materials that interest them most.
- *Description*: This is one of several features that relates to the dilemma between more choice, which enhances student empowerment and motivation, and more structure, which effects greater consistency and comprehensiveness of learning. Programs that try to balance these two might include basal readers or worksheets to address the dilemma. A more traditional Whole Language program might couple this feature with similar content-oriented, student-centered features, such as silent individual reading, essays, theme-based learning, interpreting/discussion, etc.
- *Costs*: This feature is more a way of organizing existing materials than it is purchasing new ones, and so may not be expensive. If it is a part of a restructuring of the classroom, the adaptation could require some expenses, such as physical remodeling, an upgrade of existing materials, etc.
- *Outcomes*: Comprehension, Critical Literacy.
- *Example(s):* ELLI (OSU, 1998).

Classroom-based:

- *Definition*: Program works with class as a whole, rather than with individuals in tutorial or small-group settings.
- *Description*: Most classes are already organized in this way. It is most compatible, then, with teacher centered instruction, and it will help to maintain consistency of instruction at the level of the class. Instruction will affect the class at a whole, rather than individually, as with one-on-one tutoring. It remains the most effective way to improve outcomes (such as test scores) for the whole class, although it may leave some students behind.
- *Costs*: Because most classes are already organized in this way, the feature need not cost anything in itself. As a part of a comprehensive effort at school restructuring, as in Success For All, additional costs may be accrued.
- *Outcomes*: Emergent Literacy, Decoding A, Comprehension.
- *Example(s):* Success For All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998).

Diagnostic procedures:

- *Definition*: Program uses at least a partially explicit set of criteria and/or methods to evaluate individual children's abilities and needs prior to or during participation in the program; this information is used primarily for placement.
- *Description*: Diagnostic procedures are used to determine eligibility for placement, and they may help schools identify places that children are slipping through cracks in addition to providing a relatively objective means of selection.
- *Costs*: Diagnostic procedures are often little more than administering a test during class time, and so may add little to no cost. Some methods of diagnostics are more involved, however, as in "Roaming around the known" in Reading Recovery, in which teachers and students spend a full week establishing rapport as the teachers collect information about the student's individual knowledge and needs.
- *Outcomes*: Emergent Literacy, Decoding A, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991).

Grade limit:

- *Definition*: Program excludes certain grades from participating, targeting a specific age group; e.g., Reading Recovery is only used in the first grade.

- *Description*: Grade limit is similar to basic reading ability assumed in that it defines the program by setting limits—in this case by age—that enable to the program to focus on a targeted outcome, approach, population, etc. Full-day kindergarten is a classic example.
- *Costs*: As with the basic reading ability assumed feature, the limiting itself does not add costs necessarily, though adapting existing circumstances to meet it may require some expenditures.
- *Outcomes*: Emergent Literacy, Decoding B.
- *Example(s):* Reading Recovery (Clay, 1991); Four-Block Method (Cunningham, 1991), Full Day Kindergarten (Humphrey, 1988).

Literacy rich environment:

- *Definition*: Program promotes literacy acquisition by promoting an environment that encourages literate activity.
- *Description*: Examples include wall decorations, such as signs, recipes, pictures with captions, etc.; a well-stocked library; and any environmental feature that reinforces print concepts and encourages reading.
- *Costs*: environmental changes can range from inexpensive to quite expensive, depending on the materials in the environment and the teacher time required to put them there. Pasting certain assignments on the walls upon completion can be quite inexpensive, while stocking a quality library in each room can be expensive. Since most schools use a combination of these alternatives, costs are probably moderate, with considerable flexibility built in.
- *Outcomes*: Emergent Literacy, Decoding A, Decoding B, Comprehension, Critical Literacy.
- *Example(s): ELLI* (OSU, 1998); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); Full Day Kindergarten (Humphrey, 1988).

One-on-one tutoring:

- *Definition*: Tutoring between a teacher or paraprofessional and one student.
- *Description*: One-on-one tutoring enables classroom instructional features such as paired reading, ongoing written observations, Vygotskian developmental approaches and is a staple of Reading Recovery as well as an additional method of intervention for students not achieving in classroom-based interventions, such as Success for All. It has been proven as a highly effective method of reaching struggling individuals, but its great expense confines it to a limited role, making classroom-wide improvements unlikely.
- *Costs*: Costs are high for this feature, because teachers can only see so many students in a day. Costs can be even higher, though: since individualized attention is the point of this feature, programs often seek to maximize this benefit by individualized record-taking, diagnostic procedures, etc. Thus hand-in-hand with this feature is often an increased amount of teacher time during which teachers are not teaching *any* students.
- *Outcomes*: Emergent Literacy, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991); Full Day Kindergarten (Humphrey, 1988).

Ongoing written observations:

- *Definition*: Teachers keep records of and track progress on students' activities, books read, etc., on an individual basis.
- *Description*: The records describe what goes on in tutorials, and often include information about how kids are progressing as determined by simple tests, e.g., how many familiar words can the student read from a list in a minute. These records focus on specific activities and their direct results, rather than scores on tests or assignments. Specific examples include proficiency checklists, teacher-kept journals, and "running records."

- *Costs*: Costs vary depending on the amount of teacher time per student is required by the observations. Thus time is a function of the amount of information kept (checklists are quicker than journals) and the number of students observed.
- *Outcomes*: Decoding A, Decoding B, Comprehension.
- *Example(s):* Reading Recovery (Clay, 1991); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998).

Pull-out program:

- *Definition*: The program identifies a subset of children from the whole class, and that subset alone participates in the program.
- *Description*: Participation may come either during normal class hours or in some kind of extended program, such as full day kindergarten or summer school. As with other features in the same class—grade limit, basic reading ability assumed—this feature limits and defines the methods, population, and outcomes targeted by the program.
- *Costs*: In itself it costs little, requiring only some kind of placement decision. Inasmuch as it is associated with more expensive features, however, such as one-on-one tutoring and small groups, pull-out programs tend to be expensive.
- *Outcomes*: Emergent Literacy, Decoding A, Decoding B, Comprehension.
- *Example(s):* Reading Recovery (Clay, 1991).

Reading canon:

- *Definition*: This is a complete list of books accepted by the program, a list often graduated for difficulty, but not necessarily a basal series. Books not on the list are excluded from the program.
- *Description*: A reading canon is an interesting alternative to a basal series, and it is the approach taken in Reading Recovery. The books are themselves trade books, and thus fit into a literature-based curriculum. At the same time, they are controlled for content and difficulty, enabling a certain measure of consistency and comprehensiveness across sites.
- *Costs*: Stocking libraries is expensive, and requiring each intervention to have a pre-defined library as its sole source of books might lead to heavy expenses, depending on how many of the books on the list the school already owns.
- *Outcomes*: Emergent Literacy, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991).

School-wide program:

- *Definition*: The program extends beyond individual students, classes, or grades. The school as a whole adopts a plan and implements it.
- *Description*: This feature usually involves a comprehensive change to nearly every level of school operations. It may take years to implement. It offers, however, a central school philosophy, professional development, and coherently designed organizational/structural features and classroom instruction features. This comprehensive approach, if implemented properly, can lead to significant long-term gains, as students benefit from a single, consistent approach to the curriculum over time. Examples are Success For All, Accelerated Schools, and Montessori schools, all of which have documented significant long-term gains maintained over years, in spite of having little else in common.
- *Costs*: Extremely high.
- *Outcomes*: Emergent Literacy, Decoding A, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* ELLI (OSU, 1998).

Small groups:

- *Definition*: Children work together in small groups, either led by a teacher/ paraprofessional or led by the students themselves.
- *Description*: The small groups feature can be flexibly employed for a variety of reasons. As an option for increasing individual attention, it is a less expensive and less effective alternative to one-on-one tutoring (Juel, 1996). If the groups are student-led, this feature can be used in a program emphasizing student empowerment. Small groups can be associated with ability grouping, either a long-run grouping or even ad hoc groups that teachers put together to address a common problem shared by several students. Look for this feature to increase as schools go from half day to full day kindergarten.
- *Costs*: Small groups need not cost any extra, if teachers simply break existing classes into, for instance, four groups and circulate around the room. The more small groups are used to increase individual attention, however, the greater the likelihood that extra help—teachers or paraprofessionals—will be required.
- *Outcomes*: Emergent Literacy, Decoding A, Comprehension.
- *Example(s):* Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998); Full Day Kindergarten (Humphrey, 1988).

Supplementary learning:

- *Definition*: Students spend extra time at school, focusing on essentially the same things they are doing in regular classes, but simply getting more time to do them.
- *Description*: This is not a derogatory category: all children need certain print experiences, linguistic abilities, and/or other environmental factors before they can really benefit from literacy instruction typically found in the first grade. For students who have less of this type of experience, Supplementary Teaching is designed to address that need. Extended day kindergarten and summer schools are environments well-suited for this.
- *Costs*: Supplementary learning costs can be quite high. In addition to requiring substantial extra teacher time, the costs of materials can escalate. If additional physical structures are required, such as the building of a new kindergarten classroom, costs can climb even further.
- *Outcomes*: Emergent Literacy, Decoding A.
- *Example(s):* Full Day Kindergarten (Humphrey, 1988).

Systematic learning:

- *Definition*: The program uses a comprehensive and sophisticated structure or set of structures that may allow for some individual flexibility, but which ultimately unify and organize the instruction.
- *Description*: Systematic learning tightens the link between features in the implemented theoretical/philosophical category and features in the organizational/structural category. This linkage organizes not just the classroom instruction features, but also the curriculum, outcomes measures, and even professional development. This is not to say that it is inflexibly rigid, though this feature may be incompatible with certain empowerment approaches like learning community or student empowerment. The feature should effect greater consistency among classroom instruction, grade levels, and outcomes measures. It is clearly visible in Success For All and arguably Reading Recovery.
- *Costs*: Systematic learning requires a strong theoretical base, considerable planning, and would likely benefit from an active professional development component, all of which will push up its costs. Once it is implemented, however, maintenance costs need not be high. In addition, once implemented, the explicit nature of the feature lend it high replicability, making its implementation in nearby schools less costly.
- *Outcomes*: Decoding A, Decoding B, Comprehension.

- *Example(s):* Reading Recovery (Clay, 1991); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998).

Trade books:

- *Definition*: Students read literature-based books, as opposed to books such as basal readers, which are constructed using controlled vocabulary and syntax.
- *Description*: A favorite of whole language approaches, trade books are the opposite extreme of basal readers. They offer children "authentic" and "natural" language, and are purported to be more interesting. For more on the advantages and disadvantages of trade books, see the entries on basal books and reading canons.
- *Costs*: Books are usually an expensive, one-time investment, though they can be used for many years, once purchased.
- *Outcomes*: Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991).

Classroom Instruction Features

Features in this category are related to the specific instructional methods used by teachers or other paraprofessionals in the intervention to teach children. These not only have a direct relationship with outcomes, but they also usually have the greatest direct impact on outcomes.

Many of these features have little to no costs associated with them. That is because they take place in a classroom with a teacher that have already been budgeted for. In other words, the structures in which the instruction takes place is where the costs become a factor, but the actual method of instruction itself is usually not a cost concern. Of course, without a classroom, there can be no classroom instruction.

Big Books:

- *Definition*: An oversize book that the students read together as a class in a participatory way.
- *Description*: Participation may include student actors, readers, drawings (which may be pasted into the book), etc. While many Big Books are commercially available, a Big Book does not necessarily have to be.
- *Costs*: Using Big Books requires multiple copies of each book in the classroom and a larger copy for the whole class to use. Beyond this expense, Big Books should not add any expenses.
- *Outcomes*: Emergent Literacy, Decoding A, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990); ELLI (OSU, 1998).

Cooperative learning:

- *Definition*: Students work together in groups toward common or individual goals.
- *Description*: This instructional method groups students of mixed ability to collaborate on some kind of project. In additional to improving specific literacy outcomes, it may also improve students' social skills.
- *Costs*: No additional.
- *Outcomes*: Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990).

Creative writing:

- *Definition*: Students write stories or other imaginative material on their own, sometimes with guidance.
- *Description*: Creative writing is a more advanced form of writing than journals. It requires the combined use of the imagination and structure. While it may not require the same level of ability in manipulating information as essays, creative writing assumes an ability to use (not just be aware of) story structures, e.g., that stories have a beginning, middle, and end, that they usually involve some sort of conflict and resolution, etc. (See journals and essays.)
- *Costs*: No additional.
- *Outcomes*: Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998).

Drama:

- *Definition*: Program participants stage a written selection, interacting directly with the text and situating themselves within it.
- *Description*: This feature, by involving students in acting, brings a multisensory aspect to reading. Because dramatic response requires translating a visual medium into motor and oral media, it requires an element of interpretation, emphasizing the distinction between reader and text, specifically the subjective response that readers bring from texts.
- *Costs*: No additional.
- *Outcomes*: Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990); ELLI (OSU, 1998).

Echo or choral reading:

- *Definition*: A variant of paced oral reading, except children also read out loud along with the adult.
- *Description*: As with paced oral reading, because fluent reading is the goal, mistakes are not corrected and reading proceeds at a steady, natural pace.
- *Costs*: No additional.
- *Outcomes*: Decoding A, Comprehension.
- *Example(s):* ELLI (OSU, 1998).

Essays:

- *Definition*: Students respond in a self-conscious, organized text to a reading, problem, situation, etc.
- *Description*: Essays are a form of writing more advanced than journals. They force writers to organize their thoughts and express them logically, coherently, even hierarchically. It raises the awareness that writing follows its own patterns of structure and that knowledge itself can be organized. (See also journals and creative writing.)
- *Costs*: No additional.
- *Outcomes*: Decoding B, Comprehension, Critical Literacy.
- *Example(s):* ELLI (OSU, 1998).

Health education:

- *Definition*: The program uses improved health education and conditions as a means of indirectly improving instructional effectiveness.

- *Description*: One of the few classroom features that has an indirect relationship with literacy outcomes, the idea behind this feature is that healthy children will be more receptive to language (and any other) instruction.
- *Costs*: No additional, unless parents are involved (see "parent skills training" in the Parent Component section).
- *Outcomes*: Emergent Literacy, Decoding A, Decoding B, Comprehension, Emergent Literacy.

Interpreting/discussion:

- *Definition*: Teacher-led class discussion of reading, with emphasis on meaning, interpretation, critical response, critical dialogue, self-expression, etc.
- *Description*: This feature is fairly advanced, and presupposes at least a certain level of comprehension. Look for it in Whole Language, student-centered interventions or interventions that target the critical literacy outcome. This feature deepens comprehension and critical response by involving children in a guided conversation, which requires response and the ability to articulate the response coherently.
- *Costs*: No additional.
- *Outcomes*: Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991).

Invented spelling:

- *Definition*: Children are taught basic spelling rules and are encouraged to write using those rules, without worrying about the correctness of the spelling.
- *Description*: This approach is used in a number of different programs. Its disadvantage is obvious, that is, that children are not learning (at least initially) to spell words correctly. The advantage to this approach, however, is that children are practicing writing in a rule-governed way. That is, they are generating words from rules, rather than from rote memory. Thus when they are introduced to correct spelling and the more complicated and irregular rules of spelling, they are cognitively prepared for them.
- *Costs*: No additional.
- *Outcomes*: Emergent Literacy, Decoding A, Decoding B.
- *Example(s):* Four-Block Method (Cunningham, 1991).

Journals:

- *Definition*: Students record their thoughts and experiences in regular accounts, usually informal.
- *Description*: Journals are a way for students to practice the other crucial aspect of literacy: writing (reading is the pedagogically dominant first crucial aspect). By keeping journals, students gain comfort and familiarity with expressing themselves in a medium other than oral. The relative informality of journal-keeping and the familiarity of content make writing more non-intimidating than other forms of writing, such as essays and creative writing. (See also essays and creative writing.)
- *Costs*: No additional.
- *Outcomes*: Emergent Literacy, Decoding A, Comprehension, Critical Literacy.
- *Example(s)*: Four-Block Method (Cunningham, 1991).

Meaning context/predicting:

- *Definition*: Children are introduced to the story before they read, and are encouraged to try and predict the outcome or otherwise interact with story structures prior to and separate from the actual narrative experience.

- *Description*: This feature is common to many different interventions and is highly compatible with almost any approach. By focusing on meaning and structures, students are forced to bridge a number of different outcomes, including Decoding A & B, Comprehension, and Critical Literacy.
- *Costs*: No additional.
- *Outcomes*: Decoding A, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Reading Recovery (Clay, 1991); Success for All (Slavin et al., 1990).

Multisensory activity:

- *Definition*: This approach emphasizes senses other than seeing and hearing to help students internalize the acts of reading.
- *Description*: Humans have five senses but depend disproportionately on sight and hearing, at least in school. This feature usually means the inclusion of the tactile sense—using a finger to trace letters, or to run under a line of text as it is read, clapping along as words are read—but it can also be generalized into some form of creative movement, e.g., dancing, drama, etc.
- *Costs*: No additional.
- *Outcomes*: Decoding A, Decoding B, Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998).

Pacing oral reading:

- *Definition*: Adults read to children—one-on-one or in groups—with the children following along (guided perhaps by a finger running under the text as it is read).
- *Description*: Students struggling to read, if they only hear themselves reading, may not have any idea of what fluent reading actually sounds like. Slow speeds are not fluid, and fast ones can cause mistakes. The children associate written text with fluid spoken language.
- *Costs*: No additional.
- *Outcomes*: Decoding A, Comprehension.
- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); Full Day Kindergarten (Humphrey, 1988).
- *Example(s):* ELLI (OSU, 1998).

Paired reading:

- *Definition*: The program puts two people together (of usually different abilities) to read. The stronger partner helps the weaker read.
- *Description*: Usually the emphasis is not on error correction, but rather helping with reading fluency. It was originally designed as a way of educating parents to read with their kids in a maximally productive way, but has since been extended to include paraprofessionals and even student peers.
- *Costs*: No additional.
- *Outcomes*: Comprehension.
- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); Full Day Kindergarten (Humphrey, 1988).

Reading drills:

- *Definition*: Program drills the participants on reading sub-skills, using specifically targeted, repetitive, and analytic exercises, e.g., flashcards with words all beginning with the same consonant.

- *Description*: Drills are a means of enabling students to practice and internalize what they have learned. While not the most glorified or appreciated of features, reading drills offer a way of strengthening students skills in certain highly abstract, systematized areas as phonics and grammar.
- *Costs*: No additional.
- *Outcomes*: Decoding A.
- *Example(s)*: Full Day Kindergarten (Humphrey, 1988).

Scaffolding:

- *Definition*: Teachers model a complex activity to show students how to perform the activity; then, the activity is repeated with less and less teacher input as students perform the activity independently.
- *Description*: This method enables children to learn how to do complex tasks. Simple directions may be insufficient to explain how to do such tasks. Scaffolding is used for more "high level" tasks and would make little sense, for instance, in a skills-oriented lesson such as phonics.
- *Costs*: No additional.
- *Outcomes*: Decoding B, Comprehension, Critical Literacy.
- *Example(s)*: ELLI (OSU, 1998).

Self-Selected Reading:

- *Definition*: Students, rather than teachers, choose which books they read.
- *Description*: An approach compatible with student empowerment, self-selected reading dramatically increases the chances that children will like what they read, improving the chances of students habitually reading for pleasure. On the down side, if children choose books only from one genre, or consistently choose books that do not challenge them, then this approach may actually hinder reading outcomes. However, it does not seem that many schools are so extreme; including self-selected reading in an overall reading program should be sufficient to reap the benefits of the approach without endangering reading achievement.
- *Costs*: No additional.
- *Outcomes*: Decoding B, Comprehension, Critical Literacy.
- *Example(s)*: Reading Recovery (Clay, 1991); Four-Block Method (Cunningham, 1991).

Silent individual reading:

- *Definition*: Children have time of their own to read silently, usually scheduled daily.
- *Description*: Teachers may or may not circulate, providing structured tutorial/individualized guidance or simply answering incidental questions. A staple of Whole Language and student-centered approaches, silent individual reading gives children the chance to practice independently what they have learned. Typically children may choose which materials they use, which again brings up the choice/comprehensiveness dilemma (see basal readers in the Structural/Organizational section).
- *Costs*: No additional.
- *Outcomes*: Decoding B, Comprehension, Critical Literacy.
- *Example(s)*: Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); ELLI (OSU, 1998).

Storytelling:

- *Definition*: Teacher reads stories out loud to students, usually in a classroom setting, rather than in a tutorial setting.

- *Description*: Storytelling is a near-universal staple of early reading instruction. It has two primary benefits: it makes children aware of the benefits of reading—that it is fun, exciting, etc.—even as it models reading—e.g., what texts sound like when read aloud and how to respond to their content.
- *Costs*: No additional.
- *Outcomes*: Emergent Literacy, Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991); Full Day Kindergarten (Humphrey, 1988); ELLI (OSU, 1998).

Student teams:

- *Definition*: Students form teams and address problems or passages together, without much direct guidance from the teacher.
- *Description*: Consonant with features like paired reading and small groups, student teams are a means of improving problem-solving skills, empowering students, and fostering cooperation and collaborative skills. Teams can be as small as two, or they can be much larger. Usually, students within groups are of diverse abilities.
- *Costs*: No additional.
- *Outcomes*: Comprehension, Critical Literacy.
- *Example(s):* Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991).

Writing mechanics: **[revising, editing, capitalizing periods, etc.]**

- *Definition*: This features comprises activities that call attention to the rules and mechanics of writing.
- *Description*: Particular activities might include revising texts to make sure, for example, that all of the sentences have periods, and all of the sentences begin with a capital letter. Editing can range from simple and mechanical to more complex revisions.
- *Costs*: No additional.
- *Outcomes*: Decoding A, Decoding B, Comprehension.
- *Example(s):* Four-Block Method (Cunningham, 1991); Success for All (Slavin et al., 1990).

Worksheets/workbooks:

- *Definition*: Students fill out worksheets.
- *Description*: Usually skills-oriented, worksheets provide an inexpensive way for students to practice what they have learned. Their use may also free up teachers' time to concentrate on other tasks, such as small group instruction.
- *Costs*: Inexpensive.
- *Outcomes*: Decoding A, Comprehension.
- *Example(s):* Full Day Kindergarten (Humphrey, 1988); Success for All (Slavin et al., 1990); Four-Block Method (Cunningham, 1991).

Parent Involvement Features

Parent component features have two primary effects. The first is that they can directly affect outcomes. The second is that they can reinforce classroom instruction. The parent component can have features from a wide range of choices, ranging from inexpensive to

extremely expensive. In the final analysis, a well-designed parent component can extend learning experiences out of the classroom and into all facets of a child's life.

Advocacy

- *Definition*: Program assists parents in advocating for their children to teachers or governmental agencies.
- *Description*: the program may intervene on behalf of children or schools over such issues as placement decisions, teacher perceptions of individuals, etc. This feature is often used to assist parents who do not understand how to work within the school system.
- *Costs*: Vary depending on number of cases and how long the advocacy is required.
- *Outcomes*: NA.
- *Example(s):* Carolina Abecedarian (Campbell & Ramey, 1994).

Book distribution

- *Definition*: The program distributes books to households that may have few.
- *Description*: Book distribution can occur in a number of ways. Lending library books is one way, and many schools also give books to families. A third route is to send home "book sacks," which contain a book and optional advice on how to share that book with the child.
- *Costs*: Anything dealing with books can be expensive, especially if the school gives books away.
- *Outcomes*: Emergent Literacy, Decoding A, Comprehension.
- *Example(s):* ELLI (OSU, 1998).

Family literacy:

- *Definition*: The program provides literacy instruction to entire families.
- *Description*: Children of illiterate parents are particularly at risk of not learning to read. This feature addresses both adult illiteracy and literacy acquisition of the school-aged children at once in a comprehensive program.
- *Costs*: Very high.
- *Outcomes*: Emergent Literacy, Decoding A, Comprehension.
- *Example(s):* Benjamin & Lord, 1996; Even Start (Connors-Tadros, 1996).

Health care assistance:

- *Definition*: Assisting parents in providing children with health needs.
- *Description*: This assistance may include fortified formulas, diapers, medical care, meals, nutrition assistance, mental health referrals, chemical dependence referrals, dental care, etc.).
- *Costs*: While costs will vary according to the numbers of families involved and the numbers of services provided, costs for this feature will likely be high.
- *Outcomes*: NA.
- *Example(s):* Carolina Abecedarian (Campbell & Ramey, 1994).

Paired reading (see paired reading in the Classroom Instruction category)

- *Definition*: The program puts two people together (of usually different abilities) to read. The stronger partner (here, the parent) helps the weaker read.
- *Description*: This feature is no different here than it is in the Classroom Instruction category. It is a very common parent feature, and many interventions require the parents to sign a contract

promising to spend a specified amount of time reading with their child every night. In addition to affecting reading outcomes directly, this feature will also affect them indirectly by reinforcing classroom instruction features.

- *Costs*: No additional, unless training is required.
- *Outcomes*: Comprehension.
- *Example(s):* Reading Recovery (Clay, 1991).

Parent awareness:

- *Definition*: The program keeps the parents informed of program features and events through outreach efforts.
- *Description*: Examples might include informational nights, newsletters, etc. As with parent conferences, this feature's relationship to outcomes may be indirect: increased awareness may help the parents reinforce classroom instruction. One common example is parent attendance in classroom activities.
- *Costs*: Low.
- *Outcomes*: NA.
- *Example(s):* Success for All (Slavin et al., 1990); ELLI (OSU, 1998).

Parent conferences

- *Definition*: Teachers meet directly with parents to discuss student progress.
- *Description*: The primary benefit to outcomes in this feature may be indirect. The communication between teachers and parents in this feature will help the parents reinforce classroom instruction—by keeping an eye on their child at homework time, by helping their child out with a specific problem, etc.
- *Costs*: Costs here are determined by the amount of time teachers spend with parents and the number of students they have.
- *Outcomes*: NA.
- *Example(s):* Benjamin & Lord, 1996.

Parent participation in curricular instruction

- *Definition*: Parents participate in the construction of the curriculum.
- *Description*: This feature is compatible with the learning community feature described in the Theoretical/Philosophical category above. By participating, parents involve themselves more in the school community, reinforcing the school at home and the home at school.
- *Costs*: No additional.
- *Outcomes*: Vary.
- *Example(s):* Benjamin & Lord, 1996.

Parent professional assistance

- *Definition*: The program provides job seeking assistance to parents.
- *Description*: Parents are provided with job training, including GED preparation, job seeking skills (e.g., interviewing techniques, resume-building).
- *Costs*: Vary. If the program provides a one-time workshop open to parents, then costs would be relatively low. On the other hand, one-on-one counseling or assistance could be more expensive.
- *Outcomes*: NA.
- *Example(s):* Even Start (Connors-Tadros, 1996).

Parent skills training:

- *Definition*: The program provides parenting instruction to families.
- *Description*: Similar to family literacy, and often combined with it, parent skills training also addresses the family as a system. Parents are educated with regards to health, teaching their children, and other needs.
- *Costs*: One of the debates central to this feature is to what degree schools should intervene. At one extreme, the family may lose its sense of autonomy and feel invaded, and at the other, the parents receive no training at all. Depending on how schools negotiate this dilemma in implementing this feature, costs can vary.
- *Outcomes*: Emergent Literacy, Decoding A, Comprehension.
- *Example(s):* Success for All (Slavin et al., 1990); Even Start (Connors-Tadros, 1996).

Parent volunteers

- *Definition*: Parents volunteer their time to participate in programs.
- *Description*: The tremendous variety of ways parents can participate in schools makes assigning outcomes difficult. Parent can act as paraprofessionals and participate in a paired reading feature, which may affect Comprehension, or they may act as babysitters on a field trip.
- *Costs*: Parent volunteers actually save staff by requiring fewer paraprofessionals or other staff.
- *Outcomes*: Vary.
- *Example(s):* Benjamin & Lord, 1996.

Reading instruction training

- *Definition*: The program trains parents how to read with their children.
- *Description*: Parents often want advice or guidance in specific ways of reading with their children. This feature provides that advice. This can be done in any number of ways: ongoing parent training workshops, newsletters, conferences, book sacks, etc.
- *Costs*: Depend on the chosen method of training. Developing book sacks could be a one-time expense that could be used for years. Ongoing parent training could be quite expensive. An advice column in a preexisting newsletter could be quite inexpensive.
- *Outcomes*: Comprehension.
- *Example(s):* Reading Recovery (Clay, 1991); ELLI (OSU, 1998).

Support services:

- *Definition*: Providing support services to parents.
- *Description*: This assistance may include transportation, custodial childcare, translators, home visits, and referrals (e.g., services for battered women).
- *Costs*: Can be high for services such as childcare but low for services such as referrals.
- *Outcomes*: NA.
- *Example(s):* Carolina Abecedarian (Campbell & Ramey, 1994).

Appendix B

Our Review Format

1. Reference (in APA style):

AuthorLast, I. I. (19##). Article title. Journal, v#(i#), pp. ##.

2. Location of Site(s) Studied:

[Location of Site(s) Studied]

3. Purpose of Study/Research Hypothesis:

[Purpose of Study]

3. Population:

[Sample (include year)]

[Explanation]

4. Program Features Addressed/Mentioned in Study:

Classroom Instruction:

[Feature 1]

[Feature 2]

Theoretical/Philosophical:

[Feature 1]

[Feature 2]

Structural/Organizational:

[Feature 1]

[Feature 2]

Professional Development:

[Feature 1]

[Feature 2]

Parent Component:

[Feature 1]

[Feature 2]

[**Note:** optional—just delete the whole line if you don't want this.]

5. Outcome Measures:

Emergent Literacy:

[Explanation]

Decoding A:

[Explanation]

Decoding B:

[Explanation]

Comprehension:

[Explanation]

Critical Literacy:

[Explanation]

6. Quality of Study (1 is lowest, and 4 is highest):

Overall

1 2 3 4

Comment:

Controls

1 2 3 4

Comment:

Explanation

1 2 3 4

Comment:

Replicability

1 2 3 4

Comment:

Definition/Awareness of Limitations

1 2 3 4

Comment:

Statistical Methods

1 2 3 4

Comment:

7. Findings:

Emergent Literacy:

[Explanation]

Decoding A:

[Explanation]

Decoding B:

[Explanation]

Comprehension:

[Explanation]

Critical Literacy:

[Explanation]

8. Summary

Literacy:

[Explanation]

Other:

[Explanation]

9. Unanswered Questions/Other Comments

[Limitations (be descriptive, not subjective)]

10. Reviewers:

Prepared by _____

Reviewed by _____

Appendix C

List of Funded Projects

	Corporation Name	Corp Code	Sch Code	School Name	Project
1	Alexandria Com School Corp	5265	4997	Cunningham Elementary School	RR
			5069	Marie Thurston Elementary School	RR
			5001	Orestes Elementary School	RR
2	Anderson Community School Corp	5275	5129	Shadeland Elementary School	RR
			5141	Westvale Elementary School	RR
3	Baugo Community Schools	2260	1709	Harley Holben Elementary Sch	RR
4	Beech Grove City Schools	5380	5457	Central Elementary School	RR
5	Blackford County Schools	0515	0501	Southside Elementary School	RR
6	Blue River Valley Schools	3405	2803	Blue River Valley Elem Sch	RR
7	Clarksville Com School Corp	1000	0841	George Rogers Clark Elem Sch	RR
			0845	Greenacres Elementary School	RR
8	Cloverdale Community Schools	6750	7082	Cloverdale Elementary School	RR
9	Crown Point Community Sch Corp	4660	3769	Douglas MacArthur Elem Sch	RR
10	East Allen County Schools	0255	0073	Monroeville School	RR
11	East Noble School Corp	6060	6477	North Side Elementary School	RR
			6478	South Side Elementary School	RR
12	Elkhart Community Schools	2305	1765	Beardsley Elementary School	RR
			1769	Beck Elementary School	RR
			1773	Daly Elementary School	RR
			1777	Hawthorne Elementary School	RR
			1673	Osolo Elementary School	RR
			1801	Roosevelt Elementary School	RR
13	Fayette County School Corp	2395	1917	Maplewood Elementary School	RR
14	Fort Wayne Community Schools	0235	0275	Arlington Elementary School	RR
			0153	Brentwood Elementary School	RR
			0151	Bunche Elementary School	RR
			0136	Fairfield Elementary School	RR
			0157	Forest Park Elementary School	RR
			0221	Francis M Price Elem Sch	RR
			0161	Franke Park Elementary School	RR
			0154	Fred H Croninger Elem Sch	RR
			0162	Glenwood Park Elementary Sch	RR
			0178	Harrison Hill Elementary Sch	RR
			0189	Indian Village Elementary Sch	RR
			0164	J Wilbur Haley Elementary Sch	RR
			0193	John S Irwin Elementary Sch	RR
			0270	Lincoln Elementary School	RR
			0197	Lindley Elementary School	RR
			0261	Louis C Ward Elementary Sch	RR
			0186	Mabel K Holland Elem Sch	RR

			0205	Maplewood Elementary School	RR
			0217	Northcrest Elementary School	RR
			0077	Pleasant Center Elem School	RR
			0239	Robert C Harris Elem Sch	RR
			0233	Saint Joseph Central School	RR
			0269	Washington Center Elem Sch	RR
			0273	Waynedale Elementary School	RR
			0134	Weisser Pk/Whitney Young Ele	RR
			0209	Willard Shambaugh Elem Sch	RR
15	Franklin Community School Corp	4225	3461	Northwood Elementary School	RR
16	Franklin County Com Sch Corp	2475	2125	Brookville Elementary School	RR
			2082	Laurel School	RR
17	Gary Community School Corp	4690	4117	Alain L Locke Elementary Sch	RR
			4065	Brunswick Elementary School	RR
			4081	Charles R Drew Elementary	RR
			4149	Ernie Pyle Elementary School	RR
			4137	Horace S Norton Elem Sch	RR
			4109	Kuny Elementary School	RR
			4087	Spaulding Elementary School	RR
28	Goshen Community Schools	2315	1829	Chamberlain Elementary Schoo	RR
			1833	Chandler Elementary School	RR
			1843	Parkside Elementary School	RR
			1845	Riverdale Elementary School	RR
			1641	Waterford Elementary School	RR
29	Greencastle Community Sch Corp	6755	7097	Mary Emma Jones Primary Sch	RR
20	Greensburg Community Schools	1730	1285	Washington Elementary School	RR
21	Harrison-Wash Com School Corp	1885	1413	Gaston Elementary School	RR
22	Huntington Co Com Sch Corp	3625	3073	Horace Mann Elementary School	RR
23	Jennings County Schools	4015	3397	North Vernon Elem Sch	RR
24	Joint Educational Services in Spec Ed	5450			RR
25	Knox Community School Corp	7525	7845	Knox Community Elementary Sch	RR
26	Lakeland School Corporation	4535	3731	Parkside Elementary School	RR
			3741	Wolcott Mills Elementary Sch	RR
27	Lebanon Community School Corp	0665	0569	Stokes Elementary School	RR
28	M S D Perry Township	5340	5322	Mary Bryan Elementary Sch	RR
29	M S D Southwest Allen County	0125	0048	Indian Meadows Elementary Sch	RR
30	M S D Steuben County	7615	7905	Pleasant Lake Elem Sch	RR
31	M S D Washington Township	5370	5436	Fox Hill Elementary Sch	RR
32	Madison Consolidated Schools	3995	3305	Dupont Elementary School	RR
			3321	Rykers' Ridge Elem Sch	RR
33	Manchester Community Schools	8045	8633	Manchester Elem School	RR
34	Marion Community Schools	2865	2401	Lincoln Elementary School	RR
			2413	Southeast Elementary School	RR
35	Michigan City Area Schools	4925	4837	Park Elementary School	RR
36	Middlebury Community Schools	2275	1734	Orchard View Sch	RR
37	Mill Creek Community Sch Corp	3335	2677	Mill Creek West Elementary	RR
38	Monroe County Com Sch Corp	5740	6189	Clear Creek Elementary School	RR
			6134	Lakeview Elementary School	RR
			6225	Templeton Elementary School	RR
39	Muncie Community Schools	1970	1469	Garfield Elementary School	RR
			1470	Grissom Elem School	RR
			1482	South View Elementary School	RR
			1509	Sutton Elementary School	RR
40	New Albany-Floyd Co Con Sch	2400	1949	Fairmont Elementary School	RR
41	North Lawrence Com Schools	5075	4921	Stalker Elementary School	RR
42	North Miami Community Schools	5620	6051	North Miami Elem School	RR

43	Northeastern Wayne Schools	8375	8928	Northeastern Elementary Sch	RR
44	Northwest Allen County Schools	0225	0069	Arcola School	RR
45	Oregon-Davis School Corp	7495	7818	Oregon-Davis Elementary Sch	RR
46	Paoli Community School Corp	6155	6587	Throop Elementary School	RR
47	Penn-Harris-Madison Sch Corp	7175	7361	Elm Road Elementary School	RR
			7365	Elsie Rogers Elem School	RR
			7377	Moran Elementary School	RR
			7323	Walt Disney Elementary School	RR
48	Peru Community Schools	5635	6113	Holman Elementary School	RR
49	Randolph Southern School Corp	6805	7113	Randolph Southern Elem Sch	RR
50	Richland-Bean Blossom C S C	5705	6145	Ellettsville Elem School	RR
51	Rochester Community Sch Corp	2645	2181	Columbia Elementary School	RR
52	Rush County Schools	6995	7287	Rushville Elementary School	RR
53	School City of East Chicago	4670	3945	Abraham Lincoln Elem Sch	RR
54	School City of Mishawaka	7200	7473	Beiger Elem & Jr High Sch	RR
			7481	Emmons Elementary School	RR
55	School Town of Highland	4720	4301	Southridge Elementary School	RR
56	Scott County School District 1	7230	7630	Austin Elementary School	RR
57	Seymour Community Schools	3675	3153	Seymour-Jackson Elem Sch	RR
58	South Newton School Corp	5995	6431	South Newton Elementary Sch	RR
59	Southwestern-Jefferson Co Con	4000	3341	Southwestern Elementary School	RR
60	Southwestern Con Sch Shelby Co	7360	7703	Southwestern Elementary Sch	RR
61	Spencer-Owen Community Schools	6195	6605	Gosport Elementary School	RR
			6601	Patricksburg Elementary Sch	RR
			6617	Spencer Elementary School	RR
62	Switzerland County School Corp	7775	7985	Jefferson-Craig Elem Sch	RR
63	Tippecanoe Valley School Corp	4445	2139	Akron Elementary School	RR
			3603	Mentone Elementary School	RR
64	Tri-Creek School Corp	4645	3753	Oak Hill Elementary School	RR
			3848	Three Creeks Elem School	RR
65	Union-North United School Corp	7215	7400	LaVille elementary School	RR
66	Warsaw Community Schools	4415	3661	Jefferson Elementary School	RR
67	Wawasee Community School Corp	4345	3635	Milford School	RR
			3625	North Webster Elementary School	RR
			3637	Syracuse Elementary School	RR
68	Westfield-Washington Schools	3030	2492	Shamrock Springs Elementary	RR
			2495	Washington Elementary School	RR
69	Whiting School City	4760	4361	Nathan Hale Elementary School	RR
70	Whitley Co Cons Schools	8665	9179	Coesse School	RR
			9196	Mary Raber Elementary School	RR

1	Northwest Allen County Schools	0225	0069	Arcola School	ELLI
2	East Allen County Schools	0255	0053	Leo Elementary School	ELLI
3	New Albany-Floyd Co Con Sch	2400	1974	Mount Tabor School	ELLI
4	M S D Decatur Township	5300	5185	Stephen Decatur Elem Sch	ELLI

1	Bremen Public Schools	5480	5943	Bremen Elem/Middle School	FDK
2	Crawfordsville Com Schools	5855	6305	Anna Willson Kindergarten Ce	FDK
3	Crown Point Community Sch Corp	4660	3769	Douglas MacArthur Elem Sch	FDK
4	Fayette County School Corp	2395	1917	Maplewood Elementary School	FDK
5	Madison Consolidated Schools	3995	3327	Anderson Elementary School	FDK
6	South Ripley Com Sch Corp	6865	7178	South Ripley Elementary School	FDK
7	Twin Lakes School Corp	8565	9129	Eastlawn Elementary School	FDK

1	Bartholomew Con School Corp	0365	0328	Clifty Creek Elementary Sch	OELI
			0374	Fodrea Community School	OELI
2	Brownsburg Community Sch Corp	3305	2711	Eagle Elementary Sch	OELI
3	Brownsburg Community Sch Corp	3305	2717	Harris Elementary School	OELI
4	Brownsburg Community Sch Corp	3305	2719	Lincoln Elementary School	OELI
5	Brownsburg Community Sch Corp	3305	2723	White Lick Elementary School	OELI
6	Carmel Clay Schools	3060	2509	Carmel Elementary School	OELI
			2508	Cherry Tree Elem Sch	OELI
			2510	College Wood Elementary Sch	OELI
			2518	Forest Dale Elementary Schoo	OELI
			2516	Mohawk Trails Elementary Sch	OELI
			2513	Orchard Park Elementary Sch	OELI
			2512	Smoky Row Elementary Sch	OELI
			2507	Woodbrook Elementary School	OELI
7	Community Schools of Frankfort	1170	1020	Suncrest Elementary Sch	OELI
8	Daleville Community Schools	1940	1405	Daleville Elementary School	OELI
9	Eagle-Union Community Sch Corp	0630	0514	Eagle Elementary School	OELI
			0513	Pleasant View Elem School	OELI
			0541	Union Elementary School	OELI
10	East Noble School Corp	6060	6477	North Side Elementary School	OELI
			6465	Rome City Elem & Middle Sch	OELI
			6478	South Side Elementary School	OELI
			6485	Wayne Center Elem Sch	OELI
			8376	Daniel Wertz Elementary Sch	OELI
11	Evansville-Vanderburgh Sch	7995	8293	Fairlawn Elementary School	OELI
			8309	Harper Elementary School	OELI
			8357	Stringtown Elementary School	OELI
			8365	Vogel Elementary School	OELI
12	Fremont Community Schools	7605	7881	Fremont Elementary School	OELI
13	Goshen Community Schools	2315		Model Elementary School	OELI
14	Greater Clark County Schools	1010	0825	Jonathan Jennings Elem Sch	OELI
			0877	Spring Hill Montessori Schoo	OELI
15	Greensburg Community Schools	1730	1277	Billings Elementary School	OELI
			1285	Washington Elementary School	OELI
16	Greenwood Community Sch Corp	4245	3477	Greenwood Northeast Elem Sch	OELI
17	Indianapolis Public Schools	5385	5498	Cold Spring School	OELI
18	Logansport Community Sch Corp	0875	0713	Columbia Elementary School	OELI
			0709	Fairview Elementary School	OELI
			0705	Franklin Elementary School	OELI
			0711	Landis Elem Sch	OELI
19	M S D Southwest Allen County	0125	0065	Lafayette Central Elem Sch	OELI
20	M S D Warren Township	5360	5369	Eastridge Elementary School	OELI
			5370	Hawthorne Elementary School	OELI
			5395	Warren Early Childhood Ctr	OELI
21	M S D Washington Township	5370	5442	Eastwood Middle School	OELI
			5421	Harcourt Elementary School	OELI
22	Madison-Grant United Sch Corp	2825	2301	Liberty Elementary School	OELI
			2329	Park Elementary School	OELI
			5037	Summitville School	OELI
23	Michigan City Area Schools	4925	4821	Joy Elementary School	OELI
24	Michigan City Area Schools	4925	4837	Park Elementary School	OELI
25	Mooresville Con School Corp	5930	6375	Neil Armstrong Elem Sch	OELI
26	Mooresville Con School Corp	5930	6381	Newby Memorial Elem Sch	OELI

27	Mooresville Con School Corp	5930	6385	North Madison Elem Sch	OELI
28	Mooresville Con School Corp	5930	6387	Northwood Elementary School	OELI
29	Mooresville Con School Corp	5930	6393	Waverly Elementary School	OELI
30	Noblesville Schools	3070	2541	Forest Hill Elementary School	OELI
			2538	Hazel Dell Elem School	OELI
			2523	Hinkle Creek Elementary School	OELI
			2529	North Elementary School	OELI
			2533	Stony Creek Elementary School	OELI
31	North Adams Community Schools	0025	0009	Monmouth Elementary School	OELI
			0037	Northwest Elementary	OELI
			0041	Southeast Elementary School	OELI
32	North Gibson School Corp	2735	2257	Lowell Elementary School	OELI
33	Randolph Central School Corp	6825	7146	Deerfield Elementary School	OELI
			7133	O R Baker Elementary School	OELI
			7145	Willard Elem School	OELI
34	Richland-Bean Blossom C S C	5705	6145	Ellettsville Elem School	OELI
			6117	Stinesville Elementary School	OELI
35	Richmond Community School Corp	8385	9009	Baxter Elementary School	OELI
			9003	C R Richardson Elem Sch	OELI
			9013	Charles Elementary School	OELI
			9014	Crestdale Elementary School	OELI
			9017	Fairview Elementary School	OELI
			8947	Highland Heights Elem Sch	OELI
			9033	Parkview Elementary School	OELI
			8943	Paul C Garrison Elem Sch	OELI
			9037	Starr Elementary School	OELI
			9045	Vaile Elementary School	OELI
			9053	Westview Elementary School	OELI
36	Rossville Con School District	1180	1033	Rossville Elementary School	OELI
37	Salem Community Schools	8205	8864	Bradie M Shrum Lower Elem	OELI
38	School City of Hobart	4730	4325	Ridge View Elementary School	OELI
39	School City of Mishawaka	7200	7469	Battell Elementary School	OELI
			7473	Beiger Elem & Jr High Sch	OELI
			7481	Emmons Elementary School	OELI
			7459	Fred J Hums Elementary School	OELI
			7485	Lasalle Elementary School	OELI
			7489	Mary Phillips Elem Sch	OELI
			7493	North Side Elementary School	OELI
			7499	Twin Branch Elementary School	OELI
40	School Town of Speedway	5400	5901	Arthur C Newby Elem School 2	OELI
			5897	Carl G Fisher Elem School 1	OELI
			5905	Frank H Wheeler Elem School	OELI
			5893	James A Allison Elem School	OELI
41	South Bend Community Sch Corp	7205	7545	Benjamin Harrison Elementary	OELI
			7617	Henry Studebaker Elementary	OELI
42	South Newton School Corp	5995	6431	South Newton Elementary Sch	OELI
43	South Putnam Community Schools	6705	7057	Fillmore Elementary School	OELI
44	Southern Wells Com Schools	8425	9057	Southern Wells Elem School	OELI
45	Southwestern-Jefferson Co Con	4000	3341	Southwestern Elementary School	OELI
46	Tipton Community School Corp	7945	8163	Washington Elementary School	OELI
47	University Schools	1870	1441	Burris Laboratory School	OELI
48	Vigo County School Corp	8030	8510	Adelaide De Vaney Elem Sch	OELI
			8537	Blanche E Fuqua Elem Sch	OELI
			8505	Davis Park Elementary School	OELI
			8609	West Vigo Elementary School	OELI
49	Wa-Nee Community Schools	2285	1743	Nappanee Elem School	OELI
			1735	Wakarusa Elem Sch	OELI

			1747	Woodview Elem School	OELI
50	Wawasee Community School Corp	4345	3635	Milford School	OELI
51	Wawasee Community School Corp	4345	3625	North Webster Elementary Sch	OELI
52	Wawasee Community School Corp	4345	3637	Syracuse Elementary School	OELI
53	Western School Corp	3490	2935	Western Primary School	OELI

Appendix D: Survey

Early Intervention (Literacy) Grant Program Survey

Please complete the following:

Title of your Early Intervention Program _____

_____

Circle grades served by the program Pre-Kindergarten Kindergarten First Second Third Other (specify):_____

Implementation period (begin-end dates) _____

Name of School Corporation _____

Corporation Number _____

Contact Person _____

Contact Person's Title _____

Contact Person's Telephone Number _____

Fax Number _____

Address _____

_____

City/Town _____

Zip Code _____

School Building(s) and Number(s) where program is implemented _____

_____

_____

A. Program Planning and Implementation: Tell us about the origin of your funded program and its implementation.

1. How did you first hear about the state's early intervention (literacy) grant program? (Mark only one.)

   - ☐ Superintendent
   - ☐ Principal
   - ☐ Other administrator
   - ☐ Teachers
   - ☐ News media
   - ☐ Indiana Department of Education notice/bulletin/web page
   - ☐ Other (specify): _____

2. Who was involved in the decision-making process used to apply for your early intervention grant? (Mark all that apply.)

   - ☐ Teachers
   - ☐ Site Administrators
   - ☐ Central Administrators
   - ☐ School Board
   - ☐ Parents
   - ☐ Other (specify): _____

3. The proposal for your early intervention (literacy) grant was for:

   - ☐ A new project that had been planned but **not** implemented.
   - ☐ An entirely new project.
   - ☐ An enhancement to an on-going program.
   - ☐ Other (specify): _____

4. Tell us about the implementation of your program.

   - ☐ It has gone as planned.
   - ☐ It has been adapted to fit better with current practices.
   - ☐ It has changed substantially since funding was received.
   - ☐ Other (specify): _____

   Comment:

5. How far along are you in implementing your grant program? (Circle the number that reflects your status.)

Still planning ←				→ Fully Implemented
①	②	③	④	⑤

B. Program Description: Briefly describe your funded early intervention (literacy) program.

6. Explain in a few sentences the overall focus and structure of your funded early intervention (literacy) program.

7. How does your funded program relate to Indiana's English/Language Arts Proficiencies?

8. Mark the activities that best describe the way your funded early intervention (literacy) program delivers instruction:

- ☐ Reading Recovery® (certified program)
- ☐ Strategies similar to Reading Recovery
- ☐ Emergent/early literacy strategies
- ☐ One-to-one tutoring
- ☐ Small groups
- ☐ Parent involvement (specify activities):_____
- ☐ Other (specify):_____

9. Indicate the instructional approaches in your funded early intervention program by checking all that apply.

- ☐ Basal approach
- ☐ Phonics methods
- ☐ Whole language
- ☐ Developmental
- ☐ ESL
- ☐ Other (specify):

_____

_____

_____

10. If your grant is funding a certified Reading Recovery® program, answer the following. Otherwise, skip to the next section.

10a. Where was your teacher leader trained?

- ☐ Purdue University
- ☐ Ohio State University
- ☐ University of Illinois
- ☐ Other (specify): _____
- ☐ Don't know

10b. What year did your teacher leader receive training? _____

10c. Aside from any teacher leaders you have in your school, how many other teachers:

Number:

_____ Have been trained for Reading Recovery®?

_____ Are in training for Reading Recovery®?

C. Teachers: Tell us about the instructional staff (certified and non-certified) who received special training, the number of students they work with, and the professional development opportunities in your funded program.

11. How many instructional staff directly work with your grant program?

Number:

_____ Certified

_____ Non-certified

11a. How many of these staff members received training for your grant program?

Number:

_____

12. How many other school personnel received training for your grant program?

Number:

_____ Principal

_____ Assistant Principal

_____ Counselor

_____ Other (specify): _____

13. Does your program have an **ongoing** professional development component?

☐ Yes

☐ No (If "No," skip to Section D)

14. Who is responsible for **ongoing** professional development sessions for your funded program?

15. What kinds of **ongoing** professional development activities have been held or have been planned for the remainder of this year? Please specify:

15a. **Ongoing** professional development activities held:

15b. **Ongoing** professional development activities planned:

D. Students: Give us some information about the students who participate in your funded early intervention (literacy) program.

16. Tell us how students were selected for your funded program.

17. Please complete the following for your funded program:

Grade Level	Expected number of students served during this school year	Average number of hours per week each student received funded intervention instruction

18. Were you able to serve all of the students identified as needing early (literacy) intervention?

☐ Yes
☐ No

Comment:

19. How do you expect your funded program to contribute to the improvement of the literacy skills of participating students?

20. What other benefits do you expect for students who participate in this funded program?

E. Parents: Tell us about parent/guardian involvement in your funded early intervention (literacy) program. If your program does not include a parent component please skip to Section F.

21. How has parent involvement changed since your funded intervention program began?

- ☐ Increased
- ☐ Stayed the same
- ☐ Decreased

Comment:

22. What kinds of parent activities are a part of your funded early intervention (literacy) program? Please check all that apply:

- ☐ Family responsibility for the health and safety of children.
- ☐ School communication with parents about student progress (e.g., grades, behavior).
- ☐ Parent involvement in school activities (e.g., field trip, monitoring lunches).
- ☐ Parent involvement at home in children's learning (e.g., reading with children).
- ☐ Parent involvement in governance of school and projects.
- ☐ Other (specify):

22a. Describe the parent activity with which you have had the most success.

23. Approximately what percent of students in your funded program had at least one parent/guardian participate in one or more planned activities?_____

F. Materials, Equipment, and Facilities: Give us an idea of the *major* instructional materials and equipment that were purchased for your funded program, and tell us about any changes made to facilities.

24. Indicate the types of materials/equipment purchased by checking the appropriate boxes:

	For Students	For Staff	For Families
Books	☐	☐	☐
Testing materials	☐	☐	☐
Literacy kits	☐	☐	☐
Hardware	☐	☐	☐
Software	☐	☐	☐
Other (specify):	☐	☐	☐

_____

_____

25. Have there been any completed or planned changes to facilities that are a result of your funded early intervention program?

☐ Yes
☐ No

If Yes, please describe:

G. Self-evaluation: Tell us about any plans you have to evaluate your funded program and/or assess the progress of students. If your program does not include a self-evaluation component, please skip to Section H.

26. Briefly describe your plans for evaluating this funded program. Please provide any details on the kinds of evidence (or instruments) you plan to use to help determine the success of your program.

27. What methods have you used to assess student progress in your funded program?

- ☐ Portfolios
- ☐ Proficiency Checklists
- ☐ Observation
- ☐ Locally developed tests
- ☐ Standardized tests (please specify):

_____

_____

- ☐ Other assessment methods (please specify):

_____

_____

Note: If you already have conducted an evaluation of your grant program and would like to share it, please return it with this survey.

H. Questions and Comments: Please help us understand how your funded intervention program fits into your school's practices and future.

28. Why did you choose the early intervention program that you chose?

29. How does your funded early intervention program fit in with the overall approach to early literacy instruction in your school?

30. What benefits has your funded early intervention (literacy) program had on the teaching of literacy in the school?

31. How is your funded early intervention (literacy) program integrated with other school programs/curricula?

32. Please tell us anything else you want us to know about your funded program.

I. Program funding: Tell us how you expect to use your early intervention (literacy) grant. We also would like to know how you plan to use your matching/in-kind contributions.

33. Please indicate the approximate dollar amounts in the following table:

Budget Items	Certified [A]	Non-Certified [B]	Total Grant Funding [Total A + B]	Matching/In-kind Contributions
Personnel Staff Development	$	$	$	$
Teacher/Other Staff (wages/salaries)	$	$	$	$
Substitute teachers (wages/salaries)	$	$	$	$
Equipment			$	$
Books			$	$
Supplies/Materials			$	$
Parent Involvement			$	$
Other (please specify):			$	$
TOTAL			$	$

34. Please indicate the source(s) of funding for the corporation contribution by checking the appropriate box(es):

- ☐ Other state funds
- ☐ Title I
- ☐ Other federal funds
- ☐ Local funds (community/business)
- ☐ Foundation/Business corporation
- ☐ Other (please specify): _____

J. Future Plans: Tell us about future plans for your funded early intervention (literacy) program.

35. Do you plan to apply or have you already applied for another early intervention (literacy) grant?

- ☐ Yes
- ☐ No

36. Do you plan to continue this funded program as part of your school program if state funding is not available?

- ☐ Yes, at the same level
- ☐ Yes, at a reduced level
- ☐ No

Comment:

Appendix E

Survey Methods and Responses

Development of Survey Form

The goal was to develop a survey form that would enable us to discern and describe the degree to which projects were implemented. Before it was administered, the survey instrument went through several iterations and reviews.

The IDOE supplied the Indiana Education Policy Center with an early intervention grant evaluation form, developed by Pat Denham at Evansville. The questions were reorganized and supplemented by Roger Farr, director of the Center for Reading and Language Studies. Finally, the Indiana Education Policy Center reviewed, edited, and expanded the questionnaire. The final version of the questionnaire was mailed to a focus group of 20 individuals who were representative of those who would eventually receive the survey. These individuals met in February 1998 to review the questionnaire and suggest alterations. Many of the suggestions made at this meeting were incorporated into the final questionnaire.

Distribution of Survey

On March 12, 1997, 133 questionnaires were mailed to the contact persons listed on each funded grant application. Some corporations were awarded grants for Reading Recovery® programs and other kinds of programs. These corporations received two separate questionnaires, one to be completed by the contact person listed for Reading Recovery®, and the other to be completed by the contact person listed for the other program. One hundred eleven surveys (83 percent) were returned.

On April 16 all 33 non-respondents were contacted by telephone and urged to complete survey. Some respondents reported that they did not receive a survey and a second copy was mailed. One May 28 all non-respondents were contacted again by telephone. The final telephone contact occurred on June 16. The last survey was received on Tuesday, September 8, 1998.

There were 95 usable surveys (71%) of the 111 received. Eleven were discarded because they were duplicates or filled out so incompletely that the results were unusable. Five of the unusable surveys mixed responses for Reading Recovery® and other programs. That is, the respondent mentions both Reading Recovery and the other program when answering narrative questions. Further, when answering discrete response questions, no distinction is

made between Reading Recovery and other types of projects. Thus, it is impossible to discern whether the respondent had Reading Recovery in mind, the other project, or both when answering a particular question.

The IDOE awarded Reading Recovery® grants to 70 corporations. Fifty (71 percent) returned surveys. Grants for other projects were awarded to 54 corporations; because some corporations had multiple projects, the 54 corporations together had a total of 63 projects. Some corporations with multiple projects returned only one survey containing combined responses for the multiple projects. Fifty of these surveys (79 percent) were returned.

Classification / Coding of Surveys

Ninety-five surveys were coded as Reading Recovery® or OELI on the basis of the program title the respondent wrote on the first page of the survey. Based on the extended narrative responses in the remaining five surveys, we inferred that the survey reported on a combination of the Reading Recovery and OELI projects that existed in the corporation.

Where appropriate, the responses on these surveys were used both in the OELI summary and in the Reading Recovery summary. For the questions that asked how many Reading Recovery teachers were trained and how many students were served, an attempt was made to partition the number for Reading Recovery and for OELI. We assumed that a Reading Recovery teacher in training can serve a maximum of six students during the year. We multiplied six times the number of teachers in training and subtracted the product from the overall number of students served.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
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