

Improving Reading in the Primary Grades

Nell K. Duke and Meghan K. Block

Summary

Almost fifteen years have passed since the publication of the National Research Council's seminal report *Preventing Reading Difficulties in Young Children*, which provided research-based recommendations on what could be done to better position students in prekindergarten through third grade for success in grade four and above. This article by Nell Duke and Meghan Block first examines whether specific key recommendations from the report have been implemented in U.S. classrooms. They find that recommendations regarding increased access to kindergarten and greater attention to and improvement of students' word-reading skills have been widely adopted. Others have not. Vocabulary and comprehension, long neglected in the primary grades, still appear to be neglected. Contrary to the report's recommendations, attention to building conceptual and content knowledge in science and social studies has actually decreased in the past fifteen years. In other words, the easier-to-master skills are being attended to, but the broader domains of accomplishment that constitute preparation for comprehension and learning in the later grades—vocabulary knowledge, comprehension strategy use, and conceptual and content knowledge—are being neglected. Near stagnation in fourth-grade students' comprehension achievement is thus unsurprising.

The authors then turn to research and reviews of research on improving primary-grade reading published since 1998, when *Preventing Reading Difficulties* was issued. They discuss several instructional approaches identified as effective in improving word-reading skill, vocabulary and conceptual knowledge, comprehension strategies, and reading outside of school; they discuss advances in interventions for struggling readers, and in whole-school literacy reform.

Duke and Block then identify three key obstacles that have prevented widespread adoption of these best practices in teaching reading. The first obstacle is a short-term orientation toward instruction and instructional reform that perpetuates a focus on the easier-to-learn reading skills at the expense of vocabulary, conceptual and content knowledge, and reading comprehension strategies. The second is a lack of expertise among many educators in how to effectively teach these harder-to-master reading skills, and the third is the limited time available in the school day and year to meet unprecedented expectations for children's learning. Policy makers, the education community, and parents must attend to these three challenges if they wish to see meaningful improvements in the reading skills of American children.

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A fourth-grade student is working diligently on the National Assessment of Educational Progress (NAEP) in Reading.¹ The student finishes reading an informational article on the blue crab and then encounters the following question:

The growth of a blue crab larva into a full-grown blue crab is most like the development of

- A) a human baby into a teenager
- B) an egg into a chicken
- C) a tadpole into a frog
- D) a seed into a tree

The answer to this question is not explicitly stated in the text. Reading the words in the question accurately and fluently, while necessary, is not sufficient to answer the question. The fourth-grader also needs vocabulary knowledge (such as understanding the meaning of *larva* and *development*), specific reading-comprehension strategies (the ability to make connections to prior knowledge and draw analogies), and conceptual and content knowledge of the life cycles of four different organisms, in addition to that of the blue crab.

As the student works, the teacher sits anxiously at the head of the classroom, wondering whether all of the school's efforts to improve reading instruction in the primary grades (kindergarten through grade three) will pay off. In recent years, enormous attention and resources have been put into primary-grade education, most notably through the federal No Child Left Behind legislation, enacted in 2001. A central goal of this measure was to have all students reading at grade level by the end of third grade.² As Sean Reardon and colleagues document in their article in this issue, fourth-grade achievement on the NAEP has shown some improvement in the past

decade.³ Yet, two-thirds of fourth- and eighth-grade students still do not reach the "proficient" category, and performance gaps by socioeconomic status are as great as they have ever been.

In this article we consider the role of instruction in the progress, or lack of it, in improving reading achievement in the primary grades. Has reading instruction in the primary grades of U.S. schools changed? If so, in what ways? For better or worse? What important areas and strategies for improvement remain? And what obstacles do schools face in successfully adopting best practices in teaching reading?

The Preventing Reading Difficulties in Young Children Report

In 1995 the U.S. departments of education and health and human services commissioned the National Research Council (NRC) to study the prevention of reading difficulties. A committee made up of a diverse group of respected experts in reading and related areas investigated various aspects of the problem and, in 1998, issued a report, *Preventing Reading Difficulties in Young Children*. The report was designed to translate research into advice and guidelines about what could be done in preschool through grade three to better position students for reading success in later schooling.⁴

While not without its detractors, the report was widely lauded and can be viewed as representing a broad consensus, as of 1998, regarding how literacy should be developed in the early grades. To answer our questions on the state of reading instruction in the primary grades, we have chosen six key recommendations from the report (listed in table 1), to assess whether and how widely they have been adopted. We then review research and reviews of research published

Table 1. Six Recommendations Drawn from the Report *Preventing Reading Difficulties in Young Children*

Recommendations	Recommendation adopted?		
	Yes	To some degree	No
<i>Kindergarten access:</i> Provide all children “access to early childhood environments [including prekindergarten as well as kindergarten] that promote language and literacy growth and that address a variety of skills that have been identified as predictors of later reading achievement.”		√	
<i>Word-reading skill (and its foundations):</i> Provide “practice with the sound structure of words; to develop knowledge about print, including the production and recognition of letters.” Provide explicit instruction and practice “that lead to an appreciation that spoken words are made up of smaller units of sounds, [and to] familiarity with spelling-sound correspondences, . . . common spelling conventions and their use in identifying printed words, [and] ‘sight’ recognition of frequent words.”	√		
<i>Vocabulary:</i> Provide instruction “designed to stimulate verbal interaction; to enrich children’s vocabularies.”			√
<i>Conceptual and content knowledge:</i> Engage in “actively building linguistic and conceptual knowledge in a rich variety of domains.”			√
<i>Comprehension strategies:</i> Promote comprehension “through direct instruction about comprehension strategies.”			√
<i>Outside-of-school reading:</i> “Promote independent reading outside school by such means as daily at-home reading assignments and expectations, summer reading lists, encouraging parent involvement, and by working with community groups, including public librarians.”	?	?	?

Source: Derived from Catherine E. Snow, M. Susan Burns, and Peg Griffin, eds., *Preventing Reading Difficulties in Young Children* (Washington: National Academy Press, 1998). The ordering, clustering, and some wording of the recommendations are the responsibility of the authors.

since 1998 on reading instruction and discuss the implications of our assessment for improving primary-grade reading.

Some readers may wonder why we have not taken as a basis for our analysis the *Report of the National Reading Panel*, issued in 2000. Developed under the auspices of the National Institutes of Child Health and Human Development, this report appears to have had a greater impact on policy and practice, in part because its recommendations influenced the No Child Left Behind legislation. Although the findings from this report and its impact are woven throughout this article, we believe the NRC’s recommendations offer a better point of departure for our discussion for five reasons. First, the NRC report focused specifically on preschool through grade three, whereas the National

Reading Panel report focused on K–12. Second, the authors of *Preventing Reading Difficulties* relied on a methodologically more inclusive body of literature, providing a richer basis for guidelines and recommendations.⁵ Notably, *Preventing Reading Difficulties* does not contradict the National Reading Panel but is much broader in its methods and range of recommendations. Third, the National Reading Panel report generated considerably more controversy than *Preventing Reading Difficulties*.⁶ Fourth, the National Reading Panel focused exclusively on instructional procedures, whereas *Preventing Reading Difficulties* included information about societal and familial sources of reading difficulties and made recommendations for policy changes that extended well beyond the classroom walls. Fifth, as part of the National Academies, the National Research Council

is arguably the most respected body in the United States for developing a report on a complex and consequential topic such as preventing reading difficulties.

In the nearly fifteen years that have passed since the publication of *Preventing Reading Difficulties*, subsequent research has reinforced its major recommendations. The report's emphasis on developing word-reading skill (and its foundations), building vocabulary and conceptual and content knowledge, teaching comprehension strategies, and promoting reading outside of school have more than stood the test of time.

Of course, as one would hope, subsequent research has offered some new findings that could augment recommendations of the report. For example, several recent studies point to the importance of cognitive flexibility in reading comprehension. Children who are better able to simultaneously consider letter-sound and semantic (meaning) information about words are better comprehenders both in the short and long term.⁷ Research also shows that interventions in cognitive flexibility can have significant benefits for reading comprehension in young children.⁸ Young children also appear to gain reading comprehension when they are taught about multiple-meaning words, such as *spell* or *plane*, and multiple-meaning sentences such as *The woman chased the man on a motorcycle*.⁹ Self-regulation, or the ability to control both emotions and cognition, has been shown to be related to young children's reading development, and intervention in this area has positive consequences for reading achievement.¹⁰ Recognizing that the field continues to develop, for the purposes of this chapter we focus on recommendations for specific instructional attention or practices in long-standing areas within reading pedagogy.

Implementation of the Six Key Recommendations

The first recommendation concerns access to kindergarten. Ensuring that all children have access to kindergarten is fundamental to providing reading instruction in the primary grades. Although kindergarten remains optional in many states, rates of attendance are high and, we suspect, increasing.¹¹ Availability of full-day kindergarten programs remains limited in some places, however, despite some evidence that full-day programs are more effective than partial-day programs in fostering literacy and other areas of academic development.¹² Ensuring that all children, particularly those at risk for reading difficulties, have access to full-day kindergarten programs should be a policy priority.

Word-reading skill and its foundations, the subject of the second recommendation, consists of phonological awareness, which is the conscious awareness of the sounds in words (being aware, for example, that *she* has two sounds, /sh/ and /ee/, whereas *sheep* has three, /sh/ /ee/ and /p); knowledge of which letters represent which sounds; decoding, or processes for figuring out the pronunciation of an unfamiliar written word; and rapid recognition of familiar words. Instructional attention to word-reading skill has increased since the publication of *Preventing Reading Difficulties*, especially in kindergarten and first grade, with concomitant improvements in student achievement.

In the only direct comparison study of instruction time spent on word-reading skill that we are aware of, researchers found that first-grade teachers in Reading First schools were spending seven minutes more a day, and second-grade teachers ten minutes more a day, on reading instruction than they had before the institution of Reading First.

(Reading First schools are supported by state grants, which in turn came from the federal government, to, among other things, “ensure that every student can read at grade level or above” by the end of third grade. The creators of the Reading First program explicitly drew on the National Reading Panel report, and not *Preventing Reading Difficulties*, in identifying essential components of reading and reading instruction.)¹³ In first grade, those extra minutes tended to be devoted to phonological awareness and phonics. In second grade, the extra minutes included vocabulary and comprehension instruction, as well as phonics.

Whether or not teachers are spending more time on word-reading instruction than they once did, they are clearly spending considerable amounts of time on the activity. Stephanie Al Otaiba and her colleagues observed kindergarten teachers spending an average of 33.15 minutes a day on phonological awareness and phonics instruction—more than half of all time spent on literacy instruction.¹⁴ Carol Connor and others found that first-grade teachers spent an average of 23 minutes on word-recognition and phonics instruction.¹⁵ William Teale and his colleagues noted similar findings in many urban Reading First schools; they also concluded that literacy curricula adopted by these schools favored instruction focused on word-reading skill and its underpinnings.¹⁶ Not surprisingly, students’ decoding ability at the end of first grade in Reading First classrooms has shown gains in recent years.¹⁷

Even though both reports emphasized the importance of building vocabulary, the third recommendation in *Preventing Reading Difficulties*, very little vocabulary instruction appears to occur in primary classrooms. Tanya Wright observed fifty-five kindergarten

classrooms for a total of 600 hours and found no instances of planned vocabulary instruction in any classroom.¹⁸ Teachers did provide students with word meanings or definitions; however, there was no evidence of repeat exposure to those words or of purposeful teaching of the words. Wright concluded that the vocabulary instruction was opportunistic rather than planned. After observing in 325 K–3 classrooms over a three-year period, Rebecca Donaldson found that fewer than 63 percent of teachers taught vocabulary and that vocabulary instruction constituted less than 5 percent, on average, of a typical teacher’s literacy instruction.¹⁹ Vocabulary instruction of any kind occurred in fewer than half of the observed kindergarten and first-grade classrooms. These two studies testify to the dire state of vocabulary instruction in primary-grade classrooms—a situation that is particularly problematic given the substantial social-class and racial gaps in vocabulary among even young children, and the central role of knowledge of word meanings in comprehension.

The fourth key recommendation we consider called for promoting reading comprehension “by actively building linguistic and conceptual knowledge in a rich variety of domains.” Although vocabulary represents both linguistic and conceptual knowledge, conceptual knowledge is broader than vocabulary knowledge—it includes knowledge about and understanding of the world. How are educators doing in that respect? Jack Jennings and Diane Rentner, the authors of a report written for the Center on Education Policy, determined that, as a result of No Child Left Behind mandates, teachers are spending much more time on skill-focused reading and math instruction at the expense of content-area instruction.²⁰ The report found that of all content-area instruction, social studies was the most affected,

perhaps because it is not one of the subject areas for which the legislation requires assessment. Other studies are consistent with this finding. In one, researchers found that primary teachers tended to view social studies as one of the least important curricular areas.²¹ The same study found that primary teachers were spending less time on social studies instruction than in the past.

Science also appears to have been neglected in recent years. George Griffith and Lawrence Scharmann conducted an online survey of teachers on changes in science instruction since enactment of No Child Left Behind.²² They found that science instruction had been on the decline in elementary schools even before the No Child Left Behind reading and math mandates were implemented. Those mandates further reduced the instructional minutes devoted to science. The survey found that 59 percent of teachers had decreased science instruction, 71 percent of them by thirty-one to ninety minutes a week. As a result, more than half of the teachers surveyed reported spending less than an hour and a half a week on science instruction.

Considerable evidence shows that primary school students, particularly those in schools that serve large numbers of disadvantaged students, are given few classroom opportunities to learn about the natural and social world through text.²³ This finding is true despite evidence that young children can comprehend and write such texts if given the opportunity²⁴ and that increasing children's exposure to informational text in the primary grades does not hamper development of word-reading or basic writing skills.²⁵

The neglect of informational text in the primary grades constitutes a missed opportunity not only to build social studies and science

knowledge through text but also to build knowledge about this type of text (including indexes, diagrams, maps, tables, and glossaries). This concern may be allayed, however, by the substantial emphasis placed on reading and writing informational text in grades K–5 in the Common Core State Standards. (The Common Core State Standards, published in 2010, were developed through the leadership of the National Governors Association Center for Best Practices and the Council of Chief State School Officers and, to date, have been adopted by forty-five states and the District of Columbia.)

In sum, the time spent on science and social studies instruction has decreased in the primary grades, and no clear increase has been detected in the amount of content-focused text used. While the failure to build conceptual and content knowledge in the primary grades may not affect reading development in the short term, given the role of background knowledge in reading and the demands of tasks such as the NAEP question presented at the outset of this paper, the long-term results of this failure may be substantial.

The fifth recommendation called for specific instruction in comprehension strategies—“deliberate efforts by a reader to better understand or remember what is being read”—that research suggests are associated with stronger reading comprehension skill.²⁶ Yet little classroom time is devoted to teaching this skill.

In a classic 1978 study, Dolores Durkin found that teachers were spending less than 1 percent of instructional time on comprehension instruction in the intermediate grades.²⁷ While time spent on comprehension instruction has increased some over the years,

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the subject appears to continue to receive relatively little attention. Carol Connor and her colleagues found almost no comprehension instruction in third grade.²⁸ In her observation of 325 classrooms in twenty-two urban, rural, and suburban schools, Rebecca Donaldson found that K–3 teachers in Reading First classrooms typically spent an average of 23 percent of their literacy instructional time on comprehension instruction.²⁹ Overall, however, explicit comprehension instruction occurred in only a quarter of the classrooms, typically in whole-group settings. Given these findings, it is perhaps not surprising that Beth Gamse and her colleagues found no statistically significant improvement in students' reading comprehension after participating in Reading First or that U.S. students more broadly have shown little improvement in reading comprehension in NAEP assessments.³⁰

The Common Core State Standards may spur greater attention to reading comprehension in the primary grades, particularly if assessments are aligned with them.³¹ These standards set high expectations for comprehension, specifying that by the end of kindergarten children will (among many other things) be able, with

prompting and support, to describe the connection between two individuals, events, ideas, or pieces of information in a text and to identify the reasons an author gives to support points in a text. They are also expected to be able to actively engage in group reading activities with purpose and understanding. Notably, the Core Standards initiative identifies these expectations as standards for informational text, so they could be addressed in content-area instruction rather than only in the English language arts or literacy block of the school day.

The sixth recommendation called on schools to promote out-of-school reading activities for their students, as the additional practice and knowledge building this provides is likely to accelerate reading development. We know of no studies that have examined whether schools and school districts have increased or decreased their efforts to promote independent reading outside of school, although efforts to promote such reading have been an element of specific research studies, as we discuss later.

In sum, then, how has reading instruction in the primary grades changed in the fifteen years since publication of *Preventing Reading Difficulties*? Certain aspects of instruction appear not to have changed at all. Most notably, vocabulary and comprehension, long neglected in primary-grade education, still appear to be neglected in classrooms. Not surprisingly, fourth-grade students of low socioeconomic status have shown little improvement in comprehension. But other aspects of instruction have changed. Some of these changes, including increased attention to and improvement in students' word-reading skill and somewhat greater kindergarten access, are for the better. Others, namely, the decrease in attention to

building conceptual and content knowledge in science and social studies, are decidedly for the worse. Teachers are attending to the easier-to-master skills—skills some articles in this issue refer to as procedural. But the broader areas of reading accomplishment that constitute preparation for comprehension and learning in the later grades—referred to elsewhere in this issue as conceptual skills and knowledge—are being neglected. Overall, primary-grade reading instruction shows much room for improvement.

Areas and Strategies for Improvement

Fortunately, research conducted since *Preventing Reading Difficulties* was published provides considerable additional guidance regarding instructional practices. We highlight some recent research studies and reviews of research that suggest promising strategies for improving primary-grade reading, including for children of low socioeconomic status.

Word-Reading Skill and Its Foundations

Research continues to demonstrate that many approaches to word-reading skill and its foundations work to improve primary-grade reading. We use as an example instruction in phonological awareness (which, recall, is conscious awareness of the sounds in words).

A review of research on phonological-awareness instruction carried out as part of the work of the National Reading Panel showed several approaches to be effective in aiding children's acquisition of reading and spelling skills.³² This review also found that underprivileged students benefited from phonological awareness instruction as much as did students from more privileged backgrounds.

The review found that phonological awareness instruction is most beneficial when it is paired with the teaching of phonics, or letter-sound relationships. Similarly, students benefit when teachers teach not only the phonological-awareness skill but also how to apply it. For example, teaching blending (that is, putting sounds together to form a word, as in the sounds /ch/ /i/ /m/ and /p/ to form the word *chimp*) and then showing students how to use that knowledge to decode words is more effective than merely teaching blending and expecting students to make the connection to decoding themselves. (And such instruction is likely to be more effective when focused on words the students actually know, rather than on unfamiliar vocabulary items.) Put another way, instructional time devoted exclusively to phonological awareness may not be as effective as when it is combined with alphabetic and decoding instruction.

Notably, the National Reading Panel recommended limiting instructional time devoted to phonological awareness in kindergarten to no more than eighteen hours in a given year, with no one lesson exceeding thirty minutes.³³ Based on research in this area and our own observations, many kindergarten teachers and programs are spending considerably more time than recommended on this skill. If there is a point of diminishing returns (that is, a point when additional instruction does not mean greater achievement), this additional time might be better spent on relatively neglected curricular areas.

Vocabulary Instruction

The recommendations in the NRC report regarding promoting vocabulary and conceptual knowledge were prescient. Many studies conducted since 1998 have confirmed that vocabulary, which in part reflects conceptual knowledge, is predictive of the ability of

elementary-school students to comprehend what they read.³⁴ By the later elementary-school years, vocabulary, and language knowledge in general, surpasses word reading as a predictor of reading comprehension.³⁵ Moreover, evidence suggests that this relationship is causal, that is, vocabulary instruction promotes reading comprehension.³⁶

As explained, vocabulary instruction in the primary grades is often left to chance, and frequently those chances occur in read-alouds, in which the teacher reads a book aloud to the class, often also asking questions and commenting on the text. Although children do seem to learn words simply from being read to, the children who come with an already well-developed vocabulary are often more likely to develop additional vocabulary from the read-aloud, leading to a “rich-get-richer” effect.³⁷

Studies show that more deliberate, systematic efforts to develop vocabulary in the primary grades can be effective. Edna Brabham and Carol Lynch-Brown determined that when the reader interacts with the students throughout the read-aloud and encourages discussion of vocabulary terms, students demonstrate higher vocabulary knowledge.³⁸ The researchers concluded that teacher explanation of vocabulary terms, coupled with students’ discussion of those words throughout the read-aloud, fosters students’ acquisition of new vocabulary.

Isabel Beck and Margaret McKeown examined the impact of what they termed “rich instruction” on kindergarten children’s vocabulary learning.³⁹ Rich instruction entailed defining words for children during read-alouds, helping children make personal or textual connections with the word, facilitating conversations about examples and

“non-examples” (things the word is or is not or does not describe—for example, a spring is flexible but an iron bar is not) and planning specific encounters with the new word over several days. As a result of rich instruction, Beck and McKeown reported, kindergarten students successfully acquired new, sophisticated vocabulary.

Developing Conceptual and Content Knowledge

Research has also shown the effectiveness of instructional approaches that aim to develop conceptual and content knowledge beyond vocabulary. Of particular note for this article are effective approaches that simultaneously seek to develop conceptual and content knowledge along with literacy skills. One example is the Science IDEAS model, which uses supported reading of age-appropriate text along with hands-on activities to develop knowledge of specific science content (such as measuring tools and types of forces). This model was found to have positive impacts on both science and literacy achievement of first- and second-grade children.⁴⁰ An integrated approach to teaching social studies and literacy skills closed the achievement gap between children in low- and high-socioeconomic status school settings on standards-based measures of social studies knowledge and content literacy skills.⁴¹ In sum, research offers many effective approaches for developing vocabulary, conceptual, and content knowledge; the policy challenge is bringing these approaches into widespread use.

Promoting Comprehension Strategies

The call to improve comprehension “through direct instruction about comprehension strategies” mirrored long-standing advice for older learners, but teaching of comprehension strategies was somewhat unusual for

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the K–3 population at the time *Preventing Reading Difficulties* was issued. Many years later, in 2010, this recommendation was validated in a review of research by a federal panel focused specifically on ways to improve reading comprehension in the primary grades.⁴² This panel gave the recommendation to “teach students to use comprehension strategies” a rare “strong evidence” rating under guidelines issued by the What Works Clearinghouse in the federal Institute of Education Sciences; the rating concerns the strength of causal and generalizable evidence to support recommended strategies, programs, or practices.

Comprehension strategies include predicting, questioning, visualizing, drawing inferences, and summarizing or retelling. The federal panel identified as effective several specific approaches to teaching comprehension strategies. Many of the approaches are consistent with the “gradual release of responsibility” model, in which teachers offer a significant amount of support at the initial presentation and early practice of a strategy and then gradually reduce the level of support as students practice.⁴³ Teachers cycle back to provide greater support as texts and tasks become more difficult, then again release responsibility slowly as students gain competence.

Applying comprehension strategies is hard mental work, so students need to be motivated

to engage in it, the panel said.⁴⁴ Notably, U.S. students rank near the bottom of students around the world in their attitudes toward reading, suggesting that generating motivation is a formidable and challenging task in U.S. schools.⁴⁵ Teachers, the panel said, could create a motivating environment, helping students to understand the benefits of reading and to feel successful in their reading, by offering choice in the topics and texts that they read, and by providing opportunities for students to work together to achieve a goal or complete a task.

Reading Outside of School

Research has continued to affirm the importance of reading outside of school. For example, John Guthrie found that fourth-grade students who read only at second-grade level engaged in no outside reading.⁴⁶ Fourth-graders reading at third-grade level read for only fifteen minutes a day outside the classroom (including homework). Students reading on grade level read twice as much outside of school (thirty minutes a day), and those reading two grade levels above read for a full hour a day outside of school on average. Guthrie suggests that the benefits of reading outside the classroom are bidirectional: students who are better readers tend to be more interested in reading outside of school, but more reading outside of school also makes students better readers.

Research has revealed specific interventions that bolster reading during summer vacation and that have clear positive effects on reading development of children of low-socioeconomic status, a group whose reading skills often decline over the summer months.⁴⁷ For three years, Richard Allington and colleagues provided books to first- and second-grade students to read over the summer; the students could choose the books they

wanted to read. Students who received the books reported more time engaged in reading during the summer than a control group of students who did not receive the books; they also demonstrated significantly higher reading achievement the following fall relative to the control group.⁴⁸ Similarly, Jimmy Kim provided books to fourth-grade students of low-socioeconomic status.⁴⁹ Kim found that students spent more time reading when they had easy access to books and that reading just four or five books over the course of the summer was enough to reduce the typical decline in these students' reading skills.

Putting It All Together: Effective Interventions for Students and Schools

Researchers have also demonstrated that instructional approaches like those described here can be combined in ways that aid struggling readers and struggling schools. One example, shown to be effective by the What Works Clearinghouse and other reviews, is the Reading Recovery program, which provides one-to-one reading intervention to low-achieving first-graders.⁵⁰ Children in the program typically participate in daily thirty-minute tutoring sessions for twelve to twenty weeks.⁵¹ Researchers have found that the program achieves its goal of instilling well-developed reading strategies in its students, and, at least on the scale that has been tested in research, a majority of children leave the program performing similarly to their average-achieving peers.⁵² Several other one-on-one interventions have also been shown to be effective.⁵³

When instruction is to be provided in small groups, intensive and systematic instruction in foundational reading skills, such as phonemic awareness, phonics, and comprehension, is one of the approaches identified by a What Works Clearinghouse panel on interventions

that help struggling primary-grade readers.⁵⁴ The intensive instruction occurs in addition to the core instruction and is given to small groups of students, three to five times a week in twenty- to forty-minute sessions. The instruction should be systematic in that skills are built gradually over time. A particular skill should be introduced in isolation, and then, over time, integrated with other skills. During students' practice of the skill, teachers should provide clear and corrective feedback to support students' ability to use the skill appropriately and effectively.

Research also provides guidance regarding interventions to help whole schools that are struggling to raise the reading skills of their primary-grade students. In a review of that research, Barbara Taylor, Taffy Raphael, and Kathryn Au identify several effective models, including Success for All and the Standards-Based Change Process.⁵⁵ Success for All, a widely implemented reform in schools with large numbers of disadvantaged students, involves devoting a ninety-minute period to reading instruction; teachers use detailed lesson plans and the emphases of the lessons include phonics and literal comprehension. The Standards-Based Change Process involves teachers in collaborating to identify characteristics of successful readers that they hope their students will exhibit upon graduation. Based on the vision, the teachers develop a cohesive curriculum to help students achieve the identified characteristics. Another effective approach is Taylor's framework, School Change in Reading, which is based on the premise that students show largest gains in classrooms that, among other things, emphasize high-level discussion of and writing about text. In this model, teachers regularly participate in study groups in which they learn how to instruct in ways that promote higher-level talk (such as making

connections to prior knowledge, discussing themes, and interpreting characters) and effectively teach comprehension strategies and challenging vocabulary. These teachers were able to create learning environments in which students led discussions and wrote about text while also participating in lower-level comprehension activities; teachers balanced instruction of word-recognition skills with instruction of comprehension strategies. In other work, Taylor and her colleagues designed an experiment to determine the effects of the framework on literacy achievement in schools serving large numbers of low-income students.⁵⁶ They concluded that students in the experimental group showed significant gains in comprehension; students whose teachers required more higher-order thinking of their students demonstrated greater reading growth.⁵⁷

Three Obstacles to Improving Primary-Grade Reading

Perhaps the greatest obstacle to improving primary-grade reading is a short-term orientation toward instruction and instructional reform. When the aim is to show reading improvements in a short period of time, spending large amounts of time on word-reading skill and its foundations, and relatively little on comprehension, vocabulary, and conceptual and content knowledge, makes sense. Measurable gains in phonological awareness, alphabet knowledge, and word reading can be achieved quickly, and, for most students, relatively easily. In contrast, gains in comprehension, vocabulary, and conceptual knowledge are harder to measure, at least in young children, and harder to achieve. Yet the long-term consequences of failing to attend to these areas cannot be overstated.

As noted, vocabulary, conceptual and content knowledge, and use of comprehension

It appears that teachers make more difference than programs in developing reading comprehension.

strategies become increasingly strong predictors of reading comprehension over time. At the extreme, students weak in these areas may sound like good readers but have little understanding of what they read—these are the so-called word callers.⁵⁸ More broadly, students whose early home and school experiences do not provide a rich store of vocabulary and conceptual knowledge related to school subjects suffer when they encounter texts that assume ever-greater knowledge bases. Students whose early home and school experiences do not foster strategic comprehension skills struggle as texts become ever more complex. Policy should thus be designed to promote a comprehensive approach to primary-grade instruction that values vocabulary, conceptual and content knowledge, comprehension skills, and motivation, as well as word-reading skill—that is, to encourage instruction that will foster development in the long as well as the short term.

A second major obstacle to improving reading in the primary grades is teacher expertise. Development of vocabulary, conceptual and content knowledge, and reading-comprehension skills cannot be scripted or achieved through curriculum alone. As a case in point, consider the work of Terrence Tivnan and Lowry Hemphill, who studied sixteen urban schools that were considered to be doing at least a “good” job implementing schoolwide literacy reform under one of

four reform models.⁵⁹ The models differed enormously in their approaches, yet most children reached grade level in word reading and decoding regardless of approach or teacher. Nonetheless, the researchers reported, setting aside differences in child ability, “the largest source of variability in first-grade outcomes... appeared to be substantial differences” in the instructional skills and orientations of individual teachers. According to the researchers, four-fifths of some teachers’ students, but less than one-fifth of other teachers’ students, met grade-level expectations in reading comprehension at the end of first grade. Wide variations were observed in the strategies individual teachers used to instruct children in decoding and comprehending text as well as “in their skill at orchestrating extended talk about text, practices that have been identified as important for early literacy progress.”⁶⁰

The challenge here is to prepare and—for those already in the field—develop far more teachers who are skilled at improving not only word-reading skill, but also vocabulary, conceptual and content knowledge, and comprehension in their students. Policy makers should focus heavily on this challenge, beginning with decreasing the emphasis on adoption of a “core reading program” as the

means to improve primary-grade reading; it appears that teachers make more difference than programs in developing reading comprehension.

A third key obstacle to improving reading in the primary grades is time. While skillful teaching and intense curriculum can do a great deal, it remains the case that the expectations for what students should know and be able to do by the end of each of the primary grades are greater than they have ever been.⁶¹ Yet the amount of time students spend in school has been essentially unchanged for generations. Educators, policy makers, and parents need to think seriously about whether this situation is tenable in the long term. Lengthening the school day or year, making more deliberate use of time outside of school, making full-day kindergarten available to all children, and investing heavily in preschool education are avenues that should be considered. Of course, adding to the time children spend in school helps only if the nature of what happens during those hours is changed. In the fifteen years since the publication of *Preventing Reading Difficulties*, some improvements have been made in primary-grade instruction, but unquestionably there is a long way still to go.

Endnotes

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