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Early Literacy Instruction and Intervention

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The purpose of this paper is to describe the efficacy of early literacy interventions and to discuss possible roles for volunteer tutors in helping prevent reading difficulties within the Response to Intervention process. First, we describe a landmark study that evaluated the impact of primary classroom instruction on reducing the proportion of students at risk for reading failure, and a more recent series of studies exploring the effects of individualizing classroom reading instruction based on students' initial skills. Second, we review studies of more intensive early intervention to demonstrate how these interventions substantially reduce the proportion of students at risk. Third, we examine effective tutoring models that utilize volunteers. Finally, we discuss the potential role of community tutors in supporting primary classroom instruction and secondary interventions.

It is vital to prevent reading difficulties because far too many children and adults read below the level that is required to be successful at school, college, and work. More than 33 percent of fourth graders performed below basic on the reading comprehension portion of the National Assessment of Educational Progress (NAEP; National Center for Educational Statistics, 2007); reading performance is lower for minority students (e.g., 53 percent of Blacks and 50 percent of Hispanics at fourth grade performed below basic). Researchers have shown that it is very difficult to remediate older students, and that early intervention efforts are more successful. As a consequence, education policy in the United States has shifted to encourage prevention.

Under the Individuals with Disabilities Educational Improvement Act (IDEA) of 2004, districts may use up to 15 percent of special education funds for prevention and early intervention. This shift in federal law encourages districts to provide intervention to struggling readers before they fail to meet grade-level achievement standards. Another important change within IDEA is that a local education agency "may use a process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures" (Pub. L. No. 108-446 § 614 [b][6][A]; § 614 [b] [2 & 3]). This process, known as Response to Intervention, or RTI, involves multiple layers of increasing instructional intensity. The RTI process begins with providing all students the opportunity to learn through *primary classroom reading instruction* or Tier 1 instruction, that is based on methods of instruction that have been scientifically validated (see Al Otaiba, Grek, Robinson, Torgesen, & Wahl, 2003).

In the next step in the RTI process, individual children who do not make adequate growth (i.e., have not responded to well-implemented and

generally effective classroom reading instruction) are identified for one or more intensive *secondary interventions* (Tier 2). Throughout the RTI process student progress must be monitored, which provides data which more expert teachers can use to help tailor the intervention to meet the students' needs. Only those students who do not make adequate progress following good *instruction and intensive intervention* would then be considered "truly reading disabled" and would then transition into a *tertiary level* (Tier 3), which might involve special education.

The purpose of this paper is to describe the efficacy of early literacy interventions and to discuss what roles volunteer tutors might play within an RTI process. First, we will describe a landmark study that evaluated the impact of Tier 1, or primary classroom instruction, on reducing the proportion of students at risk for reading failure, and a recent series of efficacy trials exploring the effects of individualizing classroom reading instruction based on students' initial skills. Second, we will review studies of more intensive early intervention (Tier 2 and Tier 3) to demonstrate how these interventions substantially reduce the proportion of students at risk. Third, because many schools may lack the resources to hire expert teachers and reading specialists to provide expert tutoring interventions, we will examine effective tutoring models that utilize volunteers and we will discuss the potential role of community tutors in supporting primary classroom instruction and secondary interventions.

Effective Primary Classroom Instruction (Tier 1)

Our focus in this article is on teachers' instructional practices. However, it is important to acknowledge that classrooms that vary in their heterogeneity reside in schools that are complex organizational systems that are located in socio-cultural communities. These contextual effects can be modeled in predicting literacy outcomes to capture effects of classroom peers (e.g., Foorman, York, Santi, & Francis, 2008), schools, and communities (Branum-Martin, Foorman, Francis, & Mehta, 2008).

Reforming classroom curriculum and instruction

During the 1980's, research on effective schools pointed out the importance of increased instructional time, strong instructional leadership and accountability, positive school climate, ongoing professional development based on effective strategies, continuous monitoring of student progress, and involved parents and decision-making teams (e.g., Denton, Foorman, & Mathes, 2003: Taylor, Pearson, Clark, & Walpole, 2000). School reform models such as Success for All (Slavin & Madden, 2001) and direct instruction (Carnine, Silbert, & Kameenui, 1997) developed curricular approaches that layered instructional time to provide for additional reading practice for struggling readers. These tiers of instruction were seen as crucial to the effectiveness of these models (Borman, Hewes, Overman, & Brown, 2003).

Research on the degree of explicitness of alphabetic instruction

In an early landmark study, Foorman and colleagues (1998) evaluated whether the explicitness of classroom instruction in the alphabetic principle would predict growth in word reading and reading comprehension. This was a large scale study conducted in eight Title 1 schools with 66 classrooms and 285 at-risk first and second graders. Teachers in these schools were assigned to use one of three experimental teaching conditions that varied in the degree to which phonics was explicitly taught, but provided similar reading comprehension and language arts instruction. All three conditions were contrasted with a "business as usual" condition then predominantly used in the school district, which provided implicit reading and language arts instruction. At least two experimental classroom reading approaches were used in any one school: direct instruction in sequenced, letter-sound correspondences practiced in decodable text (direct code; Open Court Reading, 1995); less explicit instruction in sound-spelling patterns embedded in trade books (embedded phonics; Hiebert, Colt, Catto, & Gury, 1992); and implicit, incidental instruction of the alphabetic principle while reading tradebooks (implicit code; e.g., Weaver, 1994). Teachers in each experimental condition received professional development and ongoing support, and fidelity of implementation was high.

Students' literacy skills were measured four times per year and data were analyzed using growth curve analyses to account for the nested nature of the data, with students nested within the teacher. Among the four conditions, the direct code group demonstrated the fastest rate of growth in word reading, spelling, and phonological awareness; students in the implicit group showed the slowest growth rates, and the students in the embedded phonics group were in-between those of the other two groups. It is helpful to consider what percent of a Title 1 school population would remain poor readers (reading below the 30th percentile) if they had received the most effective Tier 1 core reading program—direct code instruction. Foorman and colleagues reported that at the end of the year, 35 percent of students remained below the 30th percentile in word recognition and that these students represented the bottom-achieving 18 percent of students in the 8 participating schools. By multiplying 35 percent times 18 percent, the figure of 5-6 percent is obtained, which indicates the percent of students in the overall population that would remain poor readers if teachers faithfully implemented direct code reading instruction in the classroom.

This relatively low proportion of poor readers represents an important first step in demonstrating how to reduce the proportion of students at risk for remaining poor readers by providing well-implemented evidence-based classroom reading instruction. Granted that this proportion relates to word reading skills and not comprehension (which is often much harder to impact); contrast this percentage with the 33 percent of fourth grade students reading below basic on the NAEP (NCES, 2007). Foorman et al. (1998) also found that

children's initial phonological awareness skill interacted with instruction in determining the effectiveness of classroom instruction. Specifically, children with lower initial phonological skill showed less reading growth, especially in the embedded-code and implicit-code groups, and may have needed additional more intensive small group code-focused instruction to help them master the alphabetic principle.

Individualizing Tier 1 classroom reading instruction

Additional evidence to support the feasibility and the efficacy of using child by instruction interactions to differentiate instruction beginning in Tier 1 comes from more recent large-scale work by Foorman and colleagues (Foorman et al., 2006) in 107 first and second grade classrooms in 17 "targeted assistance" schools in two inner cities. Foorman et al. (2006) found that highly rated first-grade teachers positively impacted word attack outcomes by spending more time in phonemic awareness and alphabetic activities compared to non-instructional activities such as disciplining students, interrupting instruction with long transitions, or being absent from the classroom. Moreover, effective teachers positively impacted letter-word outcomes by not engaging in grammar, mechanics, and spelling. While reading outcomes improved to the national average, spelling performance remained at the 30th percentile, on average, partly because students independently completed workbook activities without teacher-led instruction on spelling patterns. For example, the more time that less effective teachers spent teaching grammar, mechanics, and spelling, the *lower* the spelling outcomes for high-ability students.

Connor and colleagues have conducted a series of studies demonstrating important child by instruction interactions (Al Otaiba et al., 2008; Connor, Morrison, & Katch, 2004; Connor, Morrison, & Slominski, 2006). Their initial findings (Connor et al., 2004; 2006) indicated that effective first grade and preschool teachers allocated time to instructional activities differentially, depending on students' initial skills. For young children with relatively weaker initial vocabulary and literacy skills, more time in small group teacher-directed explicit skill instruction resulted in stronger growth in reading skills. By contrast, children with stronger initial language and literacy skills showed stronger reading growth when provided more child-managed instruction.

Similarly, in a kindergarten Reading First observation study, Al Otaiba et al. (2008) found important interactions involving amounts and types of instruction with initial skills. Overall within each hour of reading instruction observed, teachers delivered an average of 12 minutes of phonological awareness instruction, 21 minutes of phonics, 8 minutes of vocabulary, and 7 minutes of comprehension. In general, these amounts of instruction did not predict mean growth in letter naming and decoding and weakly predicted phonological awareness growth. However, children in the bottom quartile of vocabulary for the sample showed greater than expected growth in letter naming and decoding in classrooms where teachers provided relatively greater amounts of vocabulary instruction in addition to the consistent daily 30-plus minutes of code-focused instruction; these children also showed greater than

expected growth in phonological awareness when their teachers provided relatively more comprehension instruction.

Based on the need to help teachers learn about using these child by treatment interactions to plan instruction, Connor and colleagues developed and field-tested Assessment to Instruction (A2i) software that allowed researchers to input students' initial skill in vocabulary and letter-word reading to derive algorithms that provide first grade teachers with data-guided recommended time, amount, and grouping allocations (e.g., Connor, Morrison, Fishman, Schatschneider, & Underwood, 2007). Recommendations for a student with relatively low letter-word skills at the beginning of the year would include relatively more minutes of teacher-directed small group phonological awareness and phonics instruction than his or her peers with higher initial skills.

As the school year progresses, additional data is entered to continue to refine recommendations for each child. The amount of teacher-directed code-focused instruction would be reduced somewhat across the year as the child masters these skills, and would be replaced by gradually increasing the amount of child-managed instruction. However, if students are not making expected rates of growth, the software recommends additional small group teacher-directed instruction. Similarly, if a student began first grade with low vocabulary scores, the algorithms would recommend relatively more teacher-managed small group vocabulary and comprehension instruction.

Across two large randomized field trials, Connor and colleagues (Connor, Morrison, Fishman, & Schatschneider, in review; Connor, Morrison, Fishman, Schatschneider, & Underwood, 2007) reported that students whose teachers followed the recommended time and grouping allocations showed significantly greater growth in decoding across first grade than did students whose teachers did not adhere to the recommendations. Furthermore, on average, students in the A2i classrooms ended first grade with significantly higher reading comprehension scores than students in the control group (roughly two months ahead). Connor estimated that roughly 5-8 percent of students whose teachers used A2i to individualize would remain poor readers. Connor and colleagues are currently field-testing versions of A2i for kindergarten through third grade.

In addition to individualizing the amounts and types of instruction children need, Al Otaiba (2003) reported that classroom teachers who used more instructional adaptations (i.e., adapted the level of difficulty for students, gave more explicit help, and allowed more low-performing students to respond) had more responsive students than teachers who did not use such adaptations. Yet, as any teacher knows, one of the challenges to individualizing instruction is classroom management. In an ongoing investigation of Tier 1 kindergarten instruction, (Al Otaiba et al., 2008) teachers were observed to use child-managed centers or peer-mediated activities such as buddy reading in order to provide extra targeted instruction to meet children's recommended minutes of teacher-led small group instruction. A number of classrooms also had other adults who supported classroom reading instruction to varying degrees and

with varying regularity. These adults included members of AmeriCorps or America Reads, preservice teacher interns, volunteer/mentors, parents, and paraprofessionals. For example, volunteers supervised a small group center within the classroom to allow children to practice specific activities drawn from the curriculum (e.g., letter-sound correspondence, journal writing, sight word flash cards) or read to small groups or individual children. In some classrooms, reading specialists, coaches or special education teachers also worked with small groups, but, from an RTI perspective, this more expert help would be cast as a Tier 2 intervention.

Additional Tiers of More Intensive Early Interventions Provided by Teachers and Researchers

The success of early reading interventions that are more intensive than typical classroom instruction has been demonstrated across studies conducted with at-risk beginning readers (see for example National Reading Panel, 2000; Cavenaugh, Kim, Wanzek, & Vaughn, 2004). The magnitude of the effects of interventions may be impacted by the age or characteristics of the participants and by the measures with which success (i.e., response to interventions) are measured. The magnitude of the effectiveness of interventions is also impacted by instructional components including: the explicitness, group size, length of instructional sessions, frequency of delivery, and duration of the intervention. Additionally, intervention effectiveness may vary depending upon the training and experience of the interventionist. Therefore, we have organized our discussion of interventions by interventionists, who range from trained teachers, to combinations of trained teachers and paraprofessionals, to community volunteers.

How effective is daily tutoring by trained teachers?

Vellutino and colleagues (1996) studied the effects of 30 minutes of daily one to one intervention with 118 first graders who scored in the lowest 15th percentile on word attack and word identification assessments. These students did not attend Title 1 schools, and families ranged from middle to high income. The pull-out intervention included phonemic awareness, decoding, comprehension, and writing; it was not a standard protocol. Instead, tutors who were trained teachers, individualized instruction according to students' needs. Furthermore, if students' scores did not improve to the 40th percentile by the end of first grade, they were provided an additional 8 to 10 weeks of tutoring in second grade. A majority of students (67 percent) could read on grade level after one semester of tutoring. At the end of the study, if the percentage of children who read below the 26th percentile was extrapolated to the population, only about 1.5 percent of the school population (recall these were not Title 1 schools) would be considered poor readers. These students, considered the most difficult to remediate, began the study with the lowest phonemic awareness skills.

What are the effects of trained teachers administering Reading Recovery?

Roughly one in five schools have used or are currently using *Reading Recovery* (*RR*; Gomez-Belenge, 2002). *RR* is a one to one tutoring program that is delivered by trained teachers who create individualized lessons for their students; typically sessions last 30 minutes daily. Schwartz (2005) conducted a randomized field trial to examine the effects of *RR* and assigned teachers who volunteered to submit student data to a treatment or wait-list control condition. Tutored students had similar demographics to the national *RR* database according to Schwartz: more than half (51 percent) received free or reduced lunch; similar percentages were White and African American (40 percent), 12 percent were Hispanic, and 2 percent were Asian. Teachers reported that they provided 20 weeks of daily 30 minute sessions. Findings suggest that treatment students outperformed controls on a range of teacher-administered assessments including alphabetic, print, and reading measures, but not on phonemic awareness measures.

Schwartz estimated that since 27 percent of *RR* graduates were referred for additional support and that children recruited for *RR* were in the lowest 20th percentile for reading relative to their classmates, about 5 percent of *RR* graduates still could not read on grade level. However, caution should be used in interpreting this estimate, as *RR* teachers did the testing and no standardized tests were used, so it is impossible to compare *RR* graduates to national norms or percentiles. Furthermore, substantial numbers of children do not complete RR if they are referred for special education or are frequently absent (Shanahan & Barr, 1995), and a review of tutoring programs reported that effect sizes for *RR* were strong for successfully discontinued students, but were small or nonexistent for the discontinued students (Elbaum, Vaughn, Hughes, & Moody, 2000).

> The magnitude of the effectiveness of interventions is also impacted by instructional components including: the explicitness, group size, length of instructional sessions, frequency of delivery, and duration of the intervention

What are the effects of enhanced Tier 1 combined with either a standard or an individualized intervention?

Mathes and colleagues (2005) designed a large randomized field trial in six non-Title 1 schools that compared the efficacy of enhanced classroom reading instruction with enhanced instruction plus one of two types of supplemental intervention. Students were initially identified at the end of kindergarten and included 100 normally developing kindergarteners and 292 kindergarteners designated as at-risk (i.e., below the 20th percentile) based on a state mandated

early reading assessment. Then, in first grade, students were randomly assigned to condition.

To enhance classroom instruction, Mathes and colleagues (2005) gave teachers feedback about student progress in oral reading fluency and provided professional development regarding linking assessment data to instruction. The first intervention (*Early Interventions in Reading*, Mathes, Torgesen, Menchetti, Wahl, & Grek, 2004) provided code-focused instruction that followed a prescriptive scope and sequence of lessons that were standard for all children. The second intervention (*Responsive Reading Instruction*, Denton & Hocker, 2005) also taught phonics explicitly but rather than directing teachers to follow a scope and sequence, teachers were trained to follow a problem solving approach that responded to individual student's strengths and weaknesses as they were observed during the lesson. Another difference between the interventions was that time allocation emphasized phonemic decoding accuracy in *Early Interventions* whereas reading and writing were emphasized relatively more in *Responsive*. Both interventions were delivered daily to small groups (of three children) by well-trained certified teachers and lasted 40 minutes a day for 30 weeks.

Encouragingly, Mathes and colleagues (2005) reported that all three treated groups scored in the average range at the end of the year on reading and spelling measures. The two intervention groups outperformed the enhanced classroom group on outcomes of phonological awareness, word reading, and oral reading fluency, but both intervention groups performed similarly to each other. If we consider the percentage of students in each condition who scored on grade level (above the 30th percentile) on word reading at the end of the study and then extrapolate that to the percentage of the schools' first grade population of students, 3 percent of students would be below that criterion in the enhanced classroom condition, compared to 0.2 percent in the *Early Interventions in Reading* condition and 1.5 percent in the *Responsive* condition. In other words, both interventions, teamed with enhanced classroom instruction, resulted in significant increases in children reading at grade level and fewer children "left behind."

How effective are interventions provided by both paraprofessionals and teachers?

A study by Torgesen and colleagues (1999) provided evidence that paraprofessionals can supplement teachers in providing a prescriptive standard intervention without adversely impacting intervention fidelity. Further, unlike the non-Title 1 populations in the Vellutino et al. (1996) and Mathes et al. (2005) studies, this study included students from a larger range of socio-economic status, with a majority from minority backgrounds (53 percent). Torgesen et al. identified kindergartners with low letter-naming and phonological awareness scores and randomly assigned them to a no-treatment control condition or to one of three one-to-one tutoring conditions.

Tutoring was provided daily for 20 minutes, four days a week starting in the second half of kindergarten and lasting through second grade (roughly

47 total hours provided by teachers and 41 by paraprofessionals). The three tutoring conditions included: 1) *phonological awareness training plus synthetic phonics* (*PASP*), which consisted of explicit instruction in phonological awareness using articulatory cues plus extensive practice in decontextualized phonetic decoding; 2) *embedded phonic s (EP)*, which also consisted of instruction in explicit phonics but placed more emphasis on practice in reading and writing connected text and on acquisition of sight words; and 3) *regular classroom support (RCS)* which consisted of tutorial assistance for the reading instruction provided in the regular classroom.

By the end of second grade, the PASP group significantly outperformed the other groups on phonemic decoding and significantly outperformed the control group and the RCS group on word reading. However, no differences among conditions were reported for reading comprehension. About a quarter of the students in the most effective condition (PASP) still read below the 26th percentile, which would translate into a 2.4 percent failure rate in the population.

Interventions Delivered by Community Volunteers

The just-described intensive interventions delivered by teachers and by paraprofessionals, in the case of Torgesen et al., required a level of sustained resources and personnel that many schools would be challenged to provide. The challenge is likely greatest at the very schools which need intervention most: schools with high percentages of children at risk for reading difficulty due to living in poverty and coming to school with lower vocabulary and literacy exposure. Therefore, it is worthwhile exploring the tutoring literature to understand what the type of roles community members, college students, and other volunteers might play in improving reading outcomes for high risk students (Juel, 1994, 1996; Morrow & Woo, 2001). Should their role be to support Tier 1 early literacy instruction within classrooms or could they effectively deliver Tier 2 tutoring interventions? For some time, reading initiatives such as *America Reads*, *AmeriCorps*, and other grass-roots organizations have worked to increase the numbers of volunteers in schools to support reading instruction, yet it is important to examine the evidence about their efficacy and to analyze the characteristics of interventions and interventionists that effectively and efficiently help children read on grade level.

Research on Effective Interventions Conducted by Volunteer Tutors

Prior meta-analyses have demonstrated that tutoring improves reading scores and that the average effect size is about .40, meaning that across all studies, on average, tutored students' reading performance was nearly half a standard deviation better than controls (Cohen, Kulik, & Kulik, 1982; Elbaum et al., 2000). However, in these reviews, volunteers conducted only a few interventions and the average effect size across this subset of studies

was smaller (.26); furthermore, the effect sizes appeared more variable within these subset of tutoring studies involving volunteers (ranging from -0.25 to .98). Generally, the highest effects were observed in the studies that most clearly described training for tutors.

Wasik (1998; 1998a) conducted a narrative review to describe studies of tutoring programs conducted by volunteers (college students, parents, and retirees). At the time, Wasik cautioned that although volunteer tutoring programs were generally effective, findings should be considered preliminary as only 3 of the 11 studies included a control group. The review reported at least four features common to effective programs: (1) training and supervision were provided by a reading specialist, (2) the tutoring program was consistent with the classroom instruction, (3) the program included high quality materials and engaging books, and (4) students' progress was monitored.

Recently, we examined more studies involving volunteer tutors that have been field tested through randomized trials (Foorman & Al Otaiba, in press). Across these studies, it was not possible for us to determine the percentage of children in the population who would not read on grade level after intervention. In addition to learning whether these programs incorporated Wasik's recommended features, we were also interested in (1) which components of reading were instructed, (2) whether tutoring was structured and scripted, and (3) if volunteers could implement programs with fidelity.

The first program, *Sound Partners*, has been tested in a series of experimental and quasi-experimental studies over the past ten years (Jenkins, Vadasy, Firebaugh, & Profliet, 2000; Vadasy, Jenkins, Antil, Wayne & O'Connor, 1997; Vadasy, Jenkins, & Pool, 2000). *Sound Partners* was designed as a structured standard treatment tutoring program for struggling beginning readers in first and second grade. The 100 scripted lessons last about 30 minutes (four days a week) and include instruction in letter-sound correspondence, decoding words, reading sight words, and fluency training in decodable texts. Researchers trained and supervised tutors; they also provided modeling and corrective feedback as needed to support fidelity of implementation.

Across these studies, there was a consistent trend showing that effect sizes (ranging from a small effect of .10 for comprehension to large effect of 1.24 for nonword decoding) favored the treatment students in phonological awareness, spelling, word reading, and fluency. Nevertheless, the fidelity of tutoring was important; larger effects were found for students whose tutors maintained higher fidelity of implementation (Vadasy et al., 2000). Vadasy and colleagues withdrew their support to examine whether tutoring would remain effective if the school district assumed tutoring training and supervision; when they did, there were no longer any meaningful differences between treatment and untutored controls. When research staff reassumed their technical assistance, however, effect sizes once again favored treatment students (Jenkins et al., 2000).

The second volunteer tutoring program, *Tutor-Assisted Intensive Learning Strategies (TAILS)*, was investigated through a randomized field trial conducted in four high poverty schools (Al Otaiba, Schatschneider, & Silverman, 2005). This study was conducted to learn about dosage--how

many days a week students needed in order to benefit from tutoring. From the 243 kindergarteners in 12 classrooms, 73 children were selected who started school with very low letter naming (< 2 letters correct per minute) or letter-sound naming scores (< 3 letter-sounds). A high proportion (over 80 percent) of children, nearly all African American, received free and reduced lunch. Within the 12 classrooms, students were randomly assigned to receive tutoring for two or four days a week or to a control condition that provided small-group storybook reading two days a week.

TAILS lessons were designed to be a consistent supplement to children's existing explicit classroom core reading program. *TAILS* is similar in instructional content to the *Sound Partners* program. Each *TAILS* lesson first provided 10-15 minutes of scripted explicit instruction in phonological awareness and phonics and fluency practice in game-like formats that increased in difficulty from letter-sounds to connected text. In the next section, which focused on building vocabulary and comprehension, tutors read aloud to children for 10-15 minutes using dialogic reading strategies (Beck, McKeown, & Kucan, 2002; Lonigan, Anthony, Bloomfield, Dyer, & Samwel, 1999). The training provided to *TAILS* tutors was somewhat longer than training for *Sound Partners*, but supervision was similar (weekly visits and modeling or coaching by research staff). Fidelity of *TAILS* implementation was consistently above 85 percent.

Al Otaiba and colleagues (2005) administered standardized reading tests (at pre-, mid-, and post-treatment) and weekly curriculum-based progress monitoring measures. Students in the 4-day *TAILS* condition showed greater growth on word reading, word attack, and passage comprehension than students in either the 2-day or control condition on three reading measures. Effect sizes favoring students in the 4-day vs. control condition were .79, .90, and .83, on word identification, passage comprehension, and basic reading skills, respectively.

The third program we reviewed, *Start Making a Reader Today (SMART),* is not an intervention program, but rather a large-scale volunteer book-reading initiative (over 7,100 K-2 students have been served). Volunteers meet with students twice a week for a half an hour and listen to or read with the students, depending on their age and ability. Unlike *Sound Partners* and *TAILS*, *SMART* does not use a scripted program. Tutors receive only minimal training that relates more to logistics than reading strategies, but they are given a handbook that supplies guidance about developing motivation and reading comprehension.

SMART was evaluated by an external team of researchers (Baker, Gersten, & Keating, 2000). Baker and colleagues utilized a randomized treatment and control within classroom design for their evaluation. The final sample of students was 43 *SMART* students and 41 controls who received two full years of tutoring. Results indicated that *SMART* students showed significantly greater improvement than controls on word identification (ES = .44) and reading fluency (ES = .48 at end of first grade and .53 at end of second grade), but there were no differences between groups on comprehension. Students showed the

greatest growth in first grade. However, fidelity was not addressed, nor was it clear whether tutoring was consistent with classroom instruction. In fact, when Baker et al. conducted informal observations in two schools, they reported that "it is unclear just exactly what the sessions consisted of" (p. 510).

Discussion and Conclusion

The research we described shows that classroom instruction can potentially help over 90 percent of early elementary students read on grade level, at least in terms of word reading ability; this percentage may increase to 97-99 percent when secondary intensive intervention is provided by experts. In fact, the central premise of RTI is that reading difficulties can be prevented for most children through well-implemented evidence-based early instruction and intervention. Contrast these percentages with rates of children whose reading comprehension scores are below basic on the fourth grade NAEP (33 percent on average, but up to 53 percent and 50 percent for Black and Hispanic students, respectively). This success notwithstanding, additional research is needed to address interventions for higher level skills such as fluency and comprehension that involves reading remediation intervention for older students. Clearly, there are complex issues involved in scaling up RTI that are beyond the scope of this article. Certainly some schools will begin RTI with greater proportions of children at risk than others. Managing resources to ensure that staff is trained, that students' instruction/intervention time is protected, that instruction and interventions are evidence-based, and that assessment efficiently links supply and demand is necessary to guarantee the integrity and success of this multi-tiered service delivery system. Schools and districts have been successful in creating catch-up growth within the RTI process (e.g., Fielding, Kerr, & Rosier, 2007). That is, it may take more than one year to catch up when children enter kindergarten with age equivalent vocabulary scores of a three year old or when children do not know any names of letters or sounds that they make. Policy makers and practitioners can learn what works and what doesn't work from such schools and from insights and findings of Reading First implementation and other large-scale efforts to provide staff development to support effective core reading implementation.

Whereas volunteer tutoring can be a successful way to enhance reading outcomes for many children, additional research is clearly needed to guide decisions about volunteers' roles in supporting classroom instruction. Implications of the research conducted so far suggest that many volunteers are successful providers of tutoring in the important components of reading (code-focused and meaning-focused), particularly when lessons are structured and scripted. However, the programs were only as effective as their implementation. A majority of researchers reported that training, supervision, and tutors' fidelity to implementation were vital to program success. In contrast, the *SMART* program showed positive gains without extensive training for tutors, but recall that the evaluators noted it was not clear exactly what instruction students received.

We need a more conclusive set of evidence-based features for volunteer programs in order to ensure they work with the "right kids" under the "right conditions." Future research could directly assess whether volunteers were as successful as paraprofessionals or teachers when administering a scripted standard tutorial and could explore whether tutors improve their effectiveness over time. Researchers also should directly compare the effectiveness of standard scripted tutorials (e.g., *Sound Partners* or *Early Interventions in Reading*) with more individualized protocols (but more carefully documented than *SMART*), or a blend of the two. Specifically, reading coaches or specialists who supervise volunteer tutors may be able to enhance intervention effects by showing volunteers how to differentiate or individualize based on children's characteristics. For example, providing extra emotional support (praise or motivation, especially for anxious or inattentive children) or scaffolding (breaking down more difficult tasks into easier steps) could improve responsiveness. Juel (1996) has reported that the level of support offered by tutors during beginning reading instruction is an important variable in evaluating treatment effectiveness. Finally, more longitudinal research is needed to learn about longer term responsiveness as it relates to the more complex skill of reading comprehension. This is important because some children who benefit from help as they learn to read may need extra interventions to support fluency or comprehension later in their school careers.

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