

**EFFECTIVENESS
REPORT**

**Scholastic RED[®]
Professional Development**

Kindergarten–3rd Grade Study

Arizona

2003–2006



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Data in this report derive from two studies by the Research and Evaluation Section of the Arizona Department of Education: *Evaluation of K–3 Professional Reading Programs for Arizona Teachers* (Judson, 2003) and *An Evaluation of Reading Development in Arizona* (2006).

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“We have a genuine national crisis. More and more, we are divided into two nations. One that reads, and one that doesn’t. One that dreams, and one that doesn’t.”

(NO CHILD LEFT BEHIND, 2001)

Abstract

A primary motivation for the *No Child Left Behind* act of 2001 (NCLB) was to improve literacy for students in kindergarten through third grade; however, progress has been slower than expected. Between 1992 and 2005, the percentage of fourth graders performing at or above the basic level in reading on the National Assessment of Educational Progress (NAEP) did not change significantly (NCES, 2005).

While many factors influence student learning, research has repeatedly shown that quality instruction is the best predictor of student success (Grant, Young, & Montbriand, 2001; Young, 2001; Thomas, 2003; DeFord et al., 2003). Research also indicates that teachers with ongoing professional development opportunities in reading are more likely to engage students in discussions and writing about the meaning of reading material—activities that are associated with developing better reading skills for students (Grant et al., 2001). Furthermore, research suggests that teacher knowledge about the reading process influences the strategies that students use and their perceptions of reading (DeFord et al., 2003).

The Reading First initiative (2001), a cornerstone of the NCLB legislation, has dedicated funds to:

- Ensure that teachers’ instructional practices reflect scientific research.
- Implement programs based on this research.
- Use rigorous assessments with proven validity and reliability that effectively screen, diagnose, and monitor the progress of all students.

Scholastic RED Professional Development

Scholastic RED is a professional development program for teachers in Grades K–12 that is grounded in the principles underlying NCLB and Reading First. Scholastic RED courses contain rich, research-based content to help teachers master a variety of strategies to effectively screen, diagnose, and monitor the reading progress of all students. The program uses online and in-person instructional approaches to deliver a sustained and comprehensive course of study that promotes student achievement and enhanced content knowledge and instructional practices for teachers.

The following report is a summary of two evaluations commissioned by the state of Arizona on the implementation of Scholastic RED over a three-year period (2003–2006):

The 2003–2004 Study evaluates teacher assessments of their learning experiences to make comparisons between Scholastic RED and other professional development programs.

The 2005–2006 Study evaluates pre- and post-survey data from teachers, and student scores on the state-mandated test to examine the program’s impact on teacher practice and student learning.

Introduction

Background of Studies

While the 2005 National Assessment of Educational Progress (NAEP) indicated that fourth-grade students in almost every ethnic group in Arizona made modest improvements in reading achievement between 1998 and 2005, student reading scores in Arizona are still well below the national average (see Figure 1). Like many states that struggle to meet the needs of diverse populations, Arizona is faced with an achievement gap that shows African American, Hispanic, and Native American students not performing as well on the test as Caucasian students. In particular, 2005 data show that the gap has widened significantly ($p < .05$) since 1992 for Arizona's Hispanic students (NCES, 2005b).

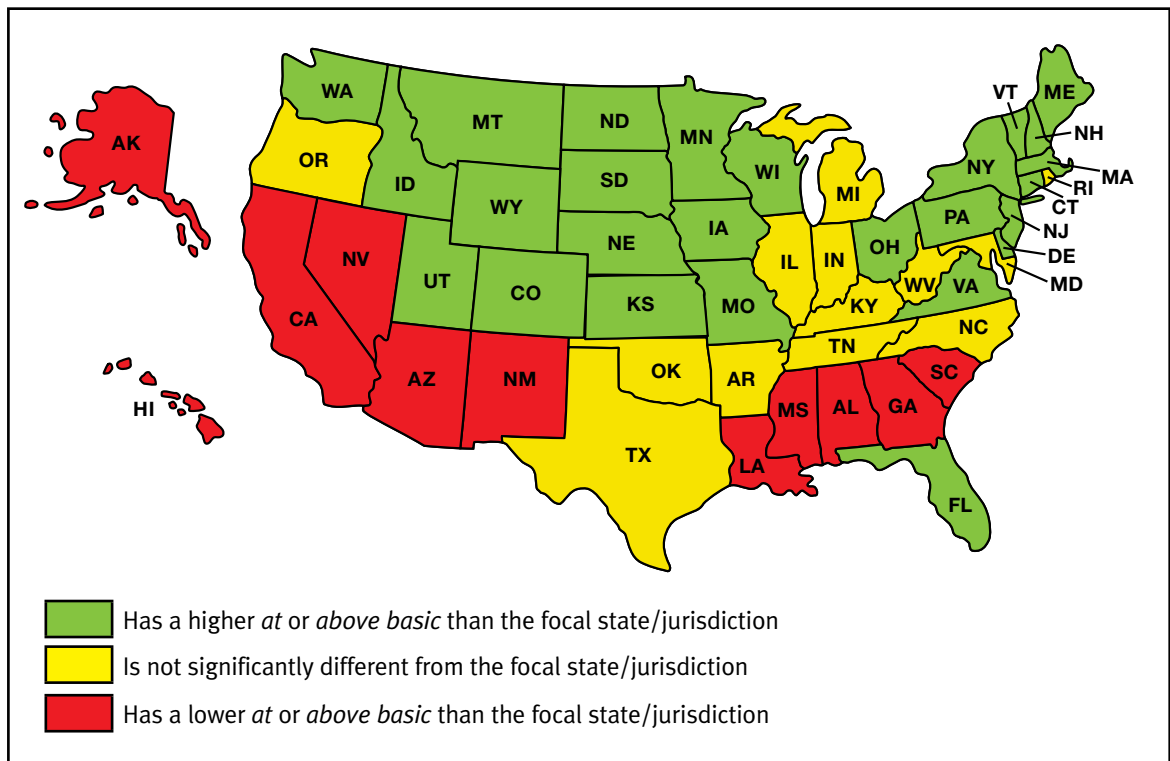


Figure 1: National Assessment of Educational Progress (NAEP) Grade 4 Reading Differences in Percentage At or Above Basic Between States (NCES, 2005c)

“These courses are research-based and have all the latest information and help on what we should be doing as teachers to improve our teaching of reading. It gives us a chance to reflect on and evaluate our own teaching techniques. It empowers us as teachers to be more effective.”

(K–3 TEACHER, 2005–2006 STUDY)

In an effort to address these and other inequities, the Arizona Legislature appropriated one million dollars in 2002 to support professional development in reading instruction that met the Reading First criteria for *exemplary* professional development (Reading First Review Criteria, 2002). Qualifying schools had at least 20 percent of their third grade students not reading at proficiency level as measured by the state-mandated test, Arizona’s Instrument to Measure Standards (AIMS). Arizona selected Scholastic RED as one of the four programs to provide professional development to K–3 educators.

Implementation of Scholastic RED Professional Development

Scholastic RED is an online and in-person professional development program intended to assist teachers in Grades K–12 to develop the skills necessary to improve students’ reading achievement. Scholastic RED courses provide teachers with research-based information about instructional practices. The program extends the initial online presentations with multimedia and face-to-face demonstrations of best practices in reading instruction and clear, practical suggestions and guidance for classroom implementation and use.

In-person study groups provide teachers with opportunities to collaborate and receive feedback from a trained facilitator and their colleagues. The program provides a rich array of resources that permit teachers to extend and apply what they learn about topics and strategies in the courses. By implementing Scholastic RED, districts have the opportunity to create a common language around reading for teachers and school administrators and a framework for ongoing school and district improvement efforts.

The implementation of Scholastic RED in Arizona has been considerable. Between 2003 and 2006, 2,881 Arizona teachers completed at least one online course; 609 teachers completed two courses; and 144 Arizona teachers completed three courses (see Table 1).

Table 1: Teachers Participating in Scholastic RED in Arizona With Sample Size of 2003–2004 and 2005–2006 Studies

Academic Year	Teachers Participating	Schools Participating	Districts Participating	Program Evaluations
2003–2004	1160	155	54	2003–2004 Study Teachers = 81
2004–2005	1619	198	73	2005–2006 Study Teachers = 216
2005–2006	1752	217	86	Schools = 88 Students = 1526

The evaluations that informed this report focused on only a small portion of these educators (2003–2004, N=81; 2005–2006, N=216) and their students (2005–2006, N=1526). Interestingly, Arizona was the only state in 2005 that increased the overall percentage of fourth graders performing *at or above proficient* on the National Assessment of Educational Progress (NCES, 2005d).

Clear, measurable gains in student achievement are likely to be the greatest motivator for teachers to use what they learn in professional development programs.

(CHARD, 2004)

Research Methodology

Thomas Guskey (2000) describes five factors that should be present in all evaluations of professional development:

1. Participants' reactions to the experience
2. Participants' learning
3. Organizational support for the goals of the program
4. Participants' application of what they learn
5. Impact on student learning

Chard (2004) reported that the last factor, impact on student learning, is noticeably absent from studies of the effectiveness of professional development programs (see also Harwell et al., 2000). Chard also noted that clear, measurable gains in student achievement are likely to be the greatest motivator for teachers to use what they learn in professional development programs.

2003–2004 Study

As noted earlier, the State Department of Education conducted two evaluations of the Scholastic RED implementation in Arizona. The 2003–2004 Study used four of Guskey's five factors for evaluating professional development programs. The study collected teacher survey data (N=81) after teachers participated in the program. The data evaluated whether teachers felt their participation was a worthwhile endeavor, acquired knowledge relating to the five key elements of reading (phonemic awareness, phonics, vocabulary, fluency, and comprehension), and how often teachers used instructional strategies that facilitate student learning of these elements.

The study also administered a post-program survey to administrative personnel to determine the level of satisfaction with the program and their perception of teacher learning. Although the findings of the administrative survey and the satisfaction portion of the teacher survey were overwhelmingly supportive of Scholastic RED (scores ranged from 4.5 to 5.0 on a five-point Likert scale), this report will focus only on those findings relating to teacher and student learning or Guskey's second, fourth, and fifth factors above.

2005–2006 Study

The 2005–2006 Study expanded the first study to include more teachers and sites (N=216 teachers; 88 schools) and extended the previous methodology to include impact on student achievement. During 2005–2006, researchers compared academic achievement of students in the classrooms of teachers participating in the professional development program to a matched student control group. Researchers also included a pre- and post-survey that sought to measure the frequency with which teachers used Scholastic RED strategies in their classrooms before and after participating in the program. In the 2005–2006 Study, researchers did not include any instruments related to organizational support of the program (see Table 2).

Table 2: Research Methodology for Studies

Factors (Guskey, 2000)	2003–2004 Study	2005–2006 Study
1. Teachers' Reactions	Teacher Survey (post)	Teacher Survey (post)
2. Teachers' Learning	Teacher Survey (post)	Teacher Survey (post)
3. Organizational Support	Administrator Survey (post)	_____
4. Teachers' Application of Learning	Teacher Survey (post) Prior and current <i>quality</i> of instructional strategies	Teacher Survey (pre & post) Prior and current <i>quantity</i> of instructional strategies
5. Impact on Student Learning	_____	Achievement Study With Experimental/Control group

Researchers used the state-mandated test (AIMS) database to match students' achievement data and demographic data in the Scholastic RED group to a control group.

(2005–2006 STUDY)

Teacher Participants

Although no demographic data are available for the teachers in the 2003–2004 Study (N=81), the 2005–2006 Study provides a clear picture of the participants. A total of 216 teachers from 88 schools completed both the pre- and post-surveys in 2005–2006 as part of their Scholastic RED courses. The 2005–2006 academic year represented the first year of participation for approximately 40% (n=87) of the teachers,¹ 39% (n=84) also participated in 2004–2005, and 17% (n=37) participated in 2003–2004. Participants were predominantly Caucasian 82% (n=178), female teachers 97% (n=209). In addition to K–3 teachers in the study, participants included reading specialists, principals, and special education teachers. On average, educators had 13.9 years of teaching experience.

Student Participants

A total of 1526 students participated in the 2005–2006 Study. Although the racial and ethnic backgrounds of the members of the student sample were reflective of the demographic makeup of Arizona (see Graph 1), Caucasian students were over-represented in the sample (83% compared to 60% in the state), as were students who were not eligible for free and reduced-price lunch (76% in sample compared to 49% in the state). The student sample consisted of 53% males and 47% females. Researchers used the state-mandated test (AIMS) database to match students' achievement data and demographic data in the Scholastic RED group to a control group. The control group also contained 1526 students. Ethnicity for this group was as follows: 53% Caucasian, 33% Hispanic, 6% Native American, 5% African American, and 3% Asian American. Seventy-seven percent did not qualify for free-and-reduced lunch and 95% did not qualify for Title I assistance. Approximately 49% of the control group students were females. Because K–2 students do not take the state-mandated test, the student sample consisted of only third grade students. It is important to note that these students represented only one-third of the teacher sample (n=81 teachers).

¹The n's for each group do not equal N because some participants did not respond to the question.

Key Findings

The combined 2003–2004 and 2005–2006 evaluations in Arizona revealed three significant findings regarding the implementation of Scholastic RED:

Improved Student Achievement: Students whose teachers participated in Scholastic RED scored significantly higher ($p < .01$) on the state-mandated test than students in a matched control group.

Increased Teacher Knowledge: Teachers significantly ($p < .05$) increased their knowledge of the five key components of reading (phonemic awareness, phonics, vocabulary, fluency, and comprehension).

Enhanced Teacher Practice: Teachers significantly ($p < .05$) increased the quality of their classroom instruction through the use of Scholastic RED strategies.

Teachers were also given the opportunity to offer comments on their learning experiences and how their new knowledge impacted student learning. The qualitative analysis mirrored the results of the quantitative analysis, with Scholastic RED participants providing specific examples of student learning, personal learning gains, and implementation of the program in their classrooms.

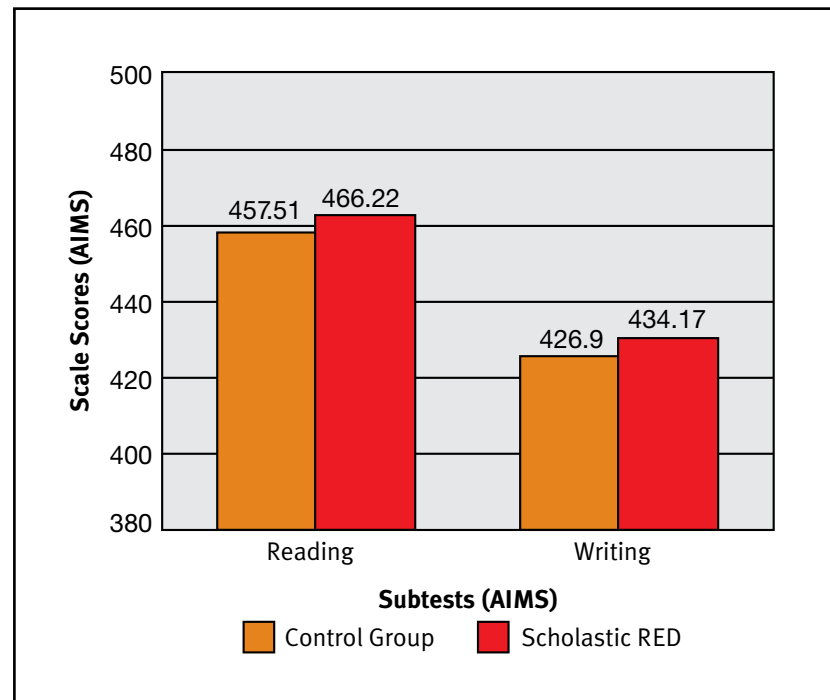
“Students whose teachers participated in Scholastic RED scored significantly higher on the reading and writing portions of the [state-mandated test] than students in the control group.”

(AN EVALUATION OF READING DEVELOPMENT IN ARIZONA, 2006)

Student Achievement

As part of the 2005–2006 Study, researchers conducted independent sample *t*-tests to evaluate whether teachers receiving Scholastic RED had an impact on their students’ reading and writing performance compared to a control group of students whose teachers did not participate in any professional development. The tests were significant for reading, $t(3038) = 4.96, p < .01$, and writing, $t(3005) = 3.04, p < .01$. Students with teachers who participated in Scholastic RED scored significantly higher on the reading and writing portions of the Arizona state-mandated test (AIMS) than students in the control group. The means for both groups are presented in Graph 2.

Graph 2: Comparison of Mean Scores on AIMS for Students With Teachers Who Participated in Scholastic RED and Control Group



The sections of Arizona’s Instrument to Measure Standards (AIMS) dedicated to testing reading and writing use a combination of multiple-choice items, reading passages, and writing prompts. These subtests gauge whether a student has exceeded (E), met (M), approached (A) or fallen far below (FFB) the Arizona standards in reading and writing. The AIMS subtests yield both a raw and scaled score for each student. For the purposes of the 2005–2006 Study, researchers used the scale scores for the reading and writing subtests to compare student achievement in experimental (Scholastic RED) and control groups. Although researchers found a significant difference in the scale scores of each group, both groups scored within the same performance level:

- Experimental and control group students *met* the Arizona standards for reading (M=450–535)
- Experimental and control group students were *approaching* the Arizona standard for writing (A=366–460)

Qualitative data from the teacher survey also supported the significant findings of the Achievement Study. Teachers who participated in Scholastic RED provided several examples of gains in student reading in their classrooms. In particular, teachers described how the Scholastic RED materials helped their “struggling readers” and their English language learners (ELLs): “The greatest change has been that my ELLs have started to read sooner and with more enthusiasm than in the past. Their confidence level is greater and I can’t help but feel that my new knowledge plays a big part in that.” Teachers reported gains in each of the five key elements of reading, noting in particular increases in oral fluency.

In addition to academic gains, teachers reported positive affective changes in their students. Teachers felt that their students were more confident in their reading and were more motivated to complete their work. One teacher remarked that, “students who are participating in [Scholastic RED] activities get very excited and show real pride in demonstrating their skills.”

“I have more specific strategies to help them when they are struggling. I don’t feel so lost in my teaching abilities when it comes to basic reading skills.”

(K–3 TEACHER WITH 11 YEARS
EXPERIENCE, 2003–2004 STUDY)

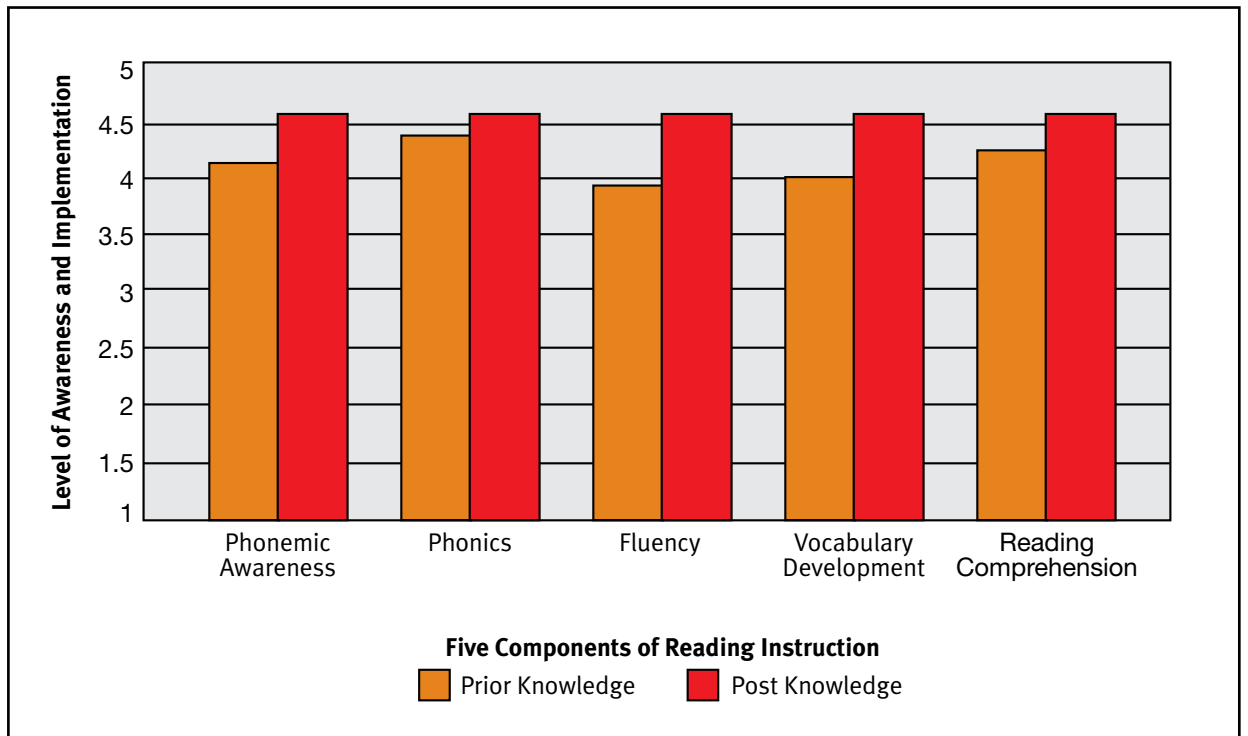
Teacher Knowledge

In the 2003–2004 Study, teachers (N=81) were asked about their awareness of reading strategies before and after participating in the program. Teachers rated the *extent* and the *quality* of their instruction of the five key elements of reading on a five-point scale, from very high (5) to very low (1) (see Graph 3). Teachers participating in Scholastic RED reported significant growth in their abilities to teach each element as a result of their program ($p<.05$).

Furthermore, in a related 2003–2004 comparison study, teachers participating in Scholastic RED showed the most growth in teacher knowledge in comparison to teachers who participated in other professional development programs (VoyagerU and Co-nect/WestEd). Although teachers rated themselves significantly lower ($p<.05$) in the areas of fluency and vocabulary development before participating in Scholastic RED, their survey responses showed the program had significantly greater impact ($p<.05$) when compared to the survey responses of teachers participating in the other programs².

²Professional development programs in the comparison study (Judson, 2003) were VoyagerU and Co-nect/WestEd.

Graph 3: Participants' Extent and Quality of Instruction in the Elements of Reading Before and After Scholastic RED



“Scholastic RED was the best received of the programs and there are strong indications that Scholastic RED had the greatest impact on teacher practice.”

(JUDSON, 2003)

In the 2005–2006 Study, teachers (N=216) were asked to identify those components of the Scholastic RED program that contributed to their content knowledge and instructional ability in the classroom. Eighty-two percent of the teachers who participated in Scholastic RED felt that they had benefited from the program: “Lessons modeled [in Scholastic RED] were helpful in working with children in different areas.” Additionally, 12% of these teachers felt the program reinforced previously taught material and refined their understanding of research-based strategies. Some teachers highlighted the importance of the assessment instruments provided by the program, and related how the assessment connected to specific areas of reading: “The Scholastic RED program helped me focus on fluency to a greater degree than I had previously done. It also provided specific strategies and ideas along with assessment to help me do this in the classroom.”

Teacher Practice

While findings from the 2003–2004 Study revealed that teachers involved in Scholastic RED significantly ($p < .05$) increased the *quality* of their instruction through the implementation of Scholastic RED strategies in the classroom (see Graph 3), the 2005–2006 Study examined the *quantity* of strategies used by teachers.

In 2005–2006, researchers provided teachers with a set of tasks relating to each of the five elements of reading before and after implementation of the program. This time, teachers were asked to rate how often they used the twenty-five tasks in their classrooms on a four-point scale (for a possible total score of 100). Although participants’ responses were not significantly different from pre-survey to post-survey ($t(200) = -1.87, p = .06$), teachers participating in Scholastic RED did report an increase in their use of tasks in each of the five elements of reading. The average total score of these teachers on the pre-survey ($M = 59.12, SD = 20.24$) rose almost four points in the post-survey ($M = 62.63, SD = 19.47$).

More importantly, qualitative data from the same instrument suggest that there were substantial changes in both the *quantity* and the *quality* of teacher practice. Ninety-four percent of the teachers participating in Scholastic RED reported that they applied their new knowledge and strategies in the classroom. Content analysis showed these responses falling into three large categories, and several smaller categories. Almost one-third of the teachers (31%) reported using “lessons and techniques” provided by Scholastic RED specifically related to phonics and phonemic awareness instruction: “As a Title 1 reading teacher, the [Scholastic RED course] gave me a better understanding of phonemic awareness, phonics, etc. Through this understanding, I am better able to apply these strategies to my teaching techniques.” Close to one-third (28%) of the teachers also increased their focus on vocabulary, while 18% increased their focus on fluency. One teacher reported, “After reading some of the research, I have begun to put more emphasis on techniques to increase fluency (such as Readers Theater) and to do more specific instruction with vocabulary before reading.” The remaining responses reported an increased focus on phonemic awareness and more time spent on reading.

“I have improved fluency in my classroom in just two weeks using [Scholastic Red] lessons and integrating them into the district standards.”

(K–3 TEACHER WITH 11 YEARS OF EXPERIENCE, 2003–2004 STUDY)

Summary

As demonstrated by the 2003–2004 and 2005–2006 studies in Arizona, Scholastic RED Professional Development is a highly effective program for promoting significant growth in student achievement and teacher knowledge and practice. Findings from both studies suggest that teachers are not only increasing the *quantity* of instructional strategies that contribute to student learning, but they are also increasing the *quality* of that instruction. These findings draw on important distinctions between professional development programs that facilitate teacher “know how,” or procedural knowledge (the knowledge of how best to perform some task), and a training model of professional development that helps teachers “know what” to do, but not necessarily “know why” they do it. It is clear from both the 2003–2004 and 2005–2006 studies that Scholastic RED is providing both content knowledge and procedural knowledge that enable teachers to effectively diagnose and meet the unique needs of early readers.

Arizona is currently in its fourth year of implementing Scholastic RED Professional Development with K–3 teachers. Because of the positive findings of the 2003–2004 and 2005–2006 studies, Arizona has increased its implementation of Scholastic RED, and currently over one-third (39%) of the school districts in Arizona are offering Scholastic RED courses to their teachers (in 2006–2007, 1752 teachers participated in Scholastic RED in Arizona). In light of the 2005–2006 findings linking student achievement gains to Scholastic RED Professional Development, this widespread implementation of Scholastic RED presents a compelling opportunity to study the systemic impact of a research-based professional development program on student learning statewide.

The 2005 National Assessment of Educational Progress (NAEP) assessed the first group of students affected by the Scholastic RED implementation in Arizona. It is notable, that these data showed the largest percentage (24%) of fourth grade students scoring *at or above proficient* in reading (NCES, 2005e). What this means to educators is that Scholastic RED has the potential to fulfill the promise of Reading First, and meet the mandates of *No Child Left Behind*.

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