

## FEATURE ARTICLE

## Scaling Up PALS:

## Importance of Implementing Evidence-Based Practice with Fidelity and Flexibility

Kristen L. McMaster, University of Minnesota  
Douglas Fuchs, Vanderbilt University  
Laura Sáenz, University of Texas Pan American  
Chris Lemons, University of Pittsburgh  
Devin Kearns, Loulee Yen, Don Compton, & Lynn S. Fuchs,  
Vanderbilt University

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Address correspondence to Kristen McMaster, University of Minnesota, [profdev@teachingld.org](mailto:profdev@teachingld.org).

Current educational reforms emphasize that, to ensure all students progress towards high academic standards, teachers must implement scientific research-based instruction (No Child Left Behind Act (NCLB), 2002; IDEA, 2004). Teachers must implement these evidence-based practices with *fidelity* by adhering to components of the instructional protocol as prescribed by the program developer; failure to do so leads to uncertainty as to whether the evidence-based practice was truly in place, and could erode its potential impact on student outcomes.

At the same time, teachers are constantly inundated with new initiatives and curricular demands, and thus they must have compelling reasons to learn about and implement evidence-based practices. One important factor that affects teachers' adoption of evidence-based practices is the "fit" of the practice with student needs and curricular demands (Kearns et al., in press). To increase the likelihood that an evidence-based practice will fit within specific classroom contexts, teachers may wish to have some degree of flexibility in their use of that practice.

In this article, we describe Peer-Assisted Learning Strategies (PALS), an evidence-based practice designed to improve academic outcomes for diverse learners. First, we provide a brief overview of PALS in reading. Then, we describe our recent efforts to "scale up" PALS. We end with a discussion of the potential importance of fidelity



Kristen L. McMaster  
University of Minnesota

and flexibility in teachers' use of evidence-based practices to improve student achievement.

### PALS Overview

PALS was developed by Doug Fuchs, Lynn Fuchs, and colleagues at Vanderbilt University, who modeled PALS after Classwide Peer Tutoring (e.g., Delquadri, Greenwood, Whorton, Carta, & Hall, 1986). Researchers have examined PALS effects for low-, average- and high-performing readers, including students with disabilities (Fuchs, Fuchs, Mathes, & Simmons, 1997; Fuchs et al., 2002; Rafdal, McMaster, McConnell, Fuchs, & Fuchs, in press) and English Learners (Calhoon, Al Otaiba, Greenberg, King, & Avalos, 2006; McMaster, Kung, Han, & Cao, 2008; Sáenz, Fuchs, & Fuchs, 2005). PALS has been demonstrated to be effective in kindergarten (Fuchs et al., 2001), first grade (Mathes, Howard, Allen, & Fuchs, 1998), Grades 2-6 (Fuchs et al., 1997), and high school (Fuchs, Fuchs, & Kazdan, 1999).

Several PALS features are common across each grade level. First, all students in a classroom are placed into higher- and lower-performing reader dyads, and assigned the reciprocal roles of "Coach" and "Reader." Second, PALS incorporates frequent opportunities to respond. Third, students are trained to implement structured PALS activities, which involve practice of skills taught in the core reading curriculum: phonemic awareness, letter-sound recognition, decoding, and fluency in kindergarten and first grade; fluency and comprehension at higher grade levels. Fourth, positive reinforcement is built into PALS: Students earn points for conducting PALS accurately and cooperatively. PALS is typically conducted for 30 to 45 min, 3 to 4 times per week.

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## Scaling Up PALS

In 2004, the Institute of Education Sciences (IES) of the U.S. Department of Education awarded a 5-year Scale-Up Evaluation grant (#R305G040104) to Doug Fuchs and colleagues at Vanderbilt University, The University of Texas Pan American, and the University of Minnesota. According to IES, “Scale-up evaluations determine whether or not an intervention is effective when it is implemented—across a variety of conditions—[and] provide an estimate of how *robust* the intervention is” (IES, 2010, p. 9). In this project, we examined the effects of PALS on student reading achievement across different student populations and types of schools, including in the original research site (Nashville, TN); Minnesota, where schools had some history of using PALS; and South Texas, where schools had very little or no history of using PALS.

In the first part of the project, we attempted to scale up Kindergarten PALS (K-PALS). We were particularly interested in the level of support that teachers would need to implement K-PALS effectively and with fidelity. Across sites, teachers were assigned randomly to (1) Control, (2) Workshop Only (teachers attended a one-day workshop and then implemented PALS on their own), (3) Workshop + Boosters (teachers attended the workshop plus 2-3 one-hour problem-solving sessions with PALS researchers and other teachers), or (4) Workshop + Boosters + Helper (teachers received weekly onsite assistance from a research assistant).

After 18 weeks, K-PALS students outperformed controls on measures of phonemic awareness, regardless of site or level of support. Effects varied, however, on measures of letter-sound identification, word reading, and fluency. In Tennessee, K-PALS effects were generally strong, although not as strong as in previous research. In Minnesota, K-PALS effects were weak to moderate. In Texas, K-PALS effects were negligible, except on letter-sound recognition. Effects also varied based on level of teacher support, with Boosters having a moderate effect above Workshop Only and Helper groups on letter-sound and word-reading outcomes.

The relatively modest effects observed in this study compared to earlier research (Fuchs et al., 2001) may be attributed to changes in kindergarten reading instruction that have occurred since the release of the National Reading Panel report (NICHD, 2000), and the emphasis placed on Reading First by NCLB (2002). Indeed, control students in the present study were achieving at notably higher levels than controls in earlier K-PALS research (Lemons, Fuchs, & Fuchs, 2008), suggesting that kindergarten reading instruction is generally stronger now than it was a decade ago. In other words, it appears we were pitting K-PALS against a stronger control.

The varied outcomes across sites may be attributed to the fact that Tennessee had the most K-PALS experience and resources. In addition, many teachers in the Texas site were not able to complete the full “dose” of K-PALS lessons due to competing district demands, such as testing that infringed upon instructional time. The varied outcomes across levels of support may be attributed

to differences in fidelity. Teachers in the Booster and Helper groups implemented PALS with greater fidelity than teachers in the Workshop Only group (Stein et al., 2008). Yet, it appeared that the Boosters added value to K-PALS effects, whereas the Helper did not. This finding suggests that fidelity is important, but only to some extent. Perhaps Boosters provided teachers with the support needed to implement K-PALS with sufficient fidelity to impact student outcomes, whereas the Helper condition was too constraining. In fact, a number of teachers in the Helper group reported feeling as though they had to do PALS strictly “by the book,” whereas without a Helper they might have made minor adjustments to fit their specific classroom needs.

From the above findings, we learned an important lesson: The impact of an “evidence-based” intervention may vary with changes in educational contexts. We realized we needed to find a way to bolster PALS such that it would better withstand such contextual changes. We determined that, while it may be important to maintain teachers’ fidelity to core PALS elements, encouraging some flexibility in their use of PALS might increase its robustness across a variety of conditions. So, we introduced a “Top Down vs. Bottom Up” focus to our study.

In the latter half of the project, teachers in Grades 3-5 participated for two years. In their first year in the study, teachers were assigned randomly to PALS or Control. All PALS teachers were asked to implement “Top Down” PALS—in other words, to use it exactly as described in the manual. Top Down PALS involved implementing the four PALS activities (Partner Reading, Retell, Paragraph Shrinking, and Prediction Relay) for 35 min per session, 3 times per week, for 54 sessions. During their second year, PALS teachers chose to implement either “Top Down” or “Bottom Up” PALS. Control teachers continued to serve as controls.

Bottom Up PALS teachers were asked to implement core elements of PALS that have strong research support—Partner Reading and Paragraph Shrinking, along with a motivational component—for at least 35 min per session for 48 sessions. Beyond the core elements, Bottom Up teachers were strongly encouraged to customize PALS, which could include minor tweaks, such as changing the point system; big changes, such as replacing Retell and Prediction Relay with new activities; and flexible changes, such as varying activities over time. Bottom Up teachers developed their own customizations, but were given support from researchers to develop materials and refine their activities as needed. Teachers developed a wide variety of activities focusing on vocabulary, comprehension strategies, and writing-related skills.

Results of the study revealed that, together, Top Down and Bottom Up PALS students made reliably greater reading gains than controls. Further, Bottom Up PALS students made reliably greater reading gains than Top Down PALS students. Because Top Down and Bottom Up teachers did not differ on other important variables, such as level of education or experience, general teaching effectiveness, or overall PALS fidelity, we believe the differences in student performance can be attributed to Bottom Up PALS.

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### Flexibility with Fidelity

The above finding is important in light of the current emphasis on implementing evidence-based practices with fidelity. It seems that teachers' customizations increased PALS "fit" with their specific classroom needs. Perhaps flexibility to customize PALS also led to greater teacher buy-in—or ownership of the program—leading to stronger, more consistent implementation and greater seamlessness between PALS and the rest of their reading instruction. Perhaps students were more motivated and engaged by the changes to PALS. Whereas we continue to explore reasons for Bottom Up PALS effects, it seems reasonable to conclude that providing teachers with some degree of flexibility is important to their effective use of PALS.

An important caution is in order: Implementing PALS with flexibility does *not* mean implementing PALS without fidelity. In our study, all teachers implemented Top Down PALS for at least one year. Thus, Bottom Up PALS teachers had substantial experience with all of the PALS components. Further, Bottom Up PALS teachers implemented the core PALS components with high levels of fidelity and received ongoing support. Without this support and adherence to core elements, we do not know whether Bottom Up PALS would be effective. Thus, we urge teachers to learn to implement PALS with fidelity, and to continue to implement the core elements of PALS even as they customize PALS to best fit their specific classroom needs.

Additional information about PALS, including order forms and training information can be found at <http://kc.vanderbilt.edu/pals/>.

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