Efficacy of Literacy Collaborative Professional Development: A Summary of Findings

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Literacy Collaborative® (LC) is a comprehensive schoolwide project designed to improve the reading and writing of children from kindergarten through eighth grade. Fountas and Pinnell (1996, 2001, 2006) elaborated on the theories of Marie Clay (1979, 2001) to design a schoolwide approach to professional development and reading and writing instruction that supports student growth at all ability levels. Until recently, large-scale scientific evidence on the efficacy of LC was lacking. However, a federally funded study recently has demonstrated that LC, and specifically its approach to professional development, is effective. The study showed that LC stimulates (a) increasing participation in one-on-one coaching by teachers; (b) improvement in teachers’ expertise in LC instructional practices; and, most importantly, (c) substantial improvements in students’ reading.

LC Professional Development

LC professional development is based on the idea that teachers need more than training in particular approaches and procedures; they also need opportunities to analyze their use of those approaches and procedures with a “more expert other” (Norlander-Case, 1999). Grounded in Bruner’s theory of instruction as scaffolding (Bruner, 1986, 1996) and Vygotsky’s theory of the zone of proximal development (Vygotsky, 1978), LC professional development aims to support the development of the deep understandings that teachers need to continually improve their practice.

The primary professional development mechanism in LC is the role of the literacy coordinator. Literacy coordinators are trained over the course of a year while still actively teaching in their schools. This intense professional preparation prior to coaching promotes a thorough understanding of literacy theory and content, expertise in implementing the LC instructional model, and experience supporting adult learners’ development. After the training year, LC literacy coaches continue to teach students half-time while assuming full responsibility for providing a range of school-based professional development opportunities. These include professional development “workshops,” study groups, and individualized one-on-one coaching.

Researchers have acknowledged that while group-oriented professional development can provide a common knowledge base and shared perspective among teachers in a school, these meetings alone afford little guidance about particular problems of practice as these emerging in literacy instruction (Kohler, Crilley, Shearer, & Good, 1997; Lieberman, 1995; Schön, 1983). In order to address this need, LC coaches work one-to-one with teachers in their classrooms. Depending on the particular needs of the teacher they observe, coaches model, consult and engage a myriad of practices—all intended to catalyze teachers’ development toward more-expert practice. This intensive one-to-one coaching is the high leverage activity in the LC model.

LC Instructional Practices

The LC instructional framework focuses on engaging students at all ability levels in reading and writing processes, with explicit instruction and guidance from teachers. Although LC is a full K–8 program, only the K–2 program was focus for this study.

Six basic components form the comprehensive literacy framework for grades kindergarten, first, and second. Each represents a distinct instructional context where changes in teachers’ practices over time might be observed.
Interactive read-alouds involve the teacher reading aloud to a group of students, usually the whole class. Teachers carefully select a text that is intended to help students think and behave in increasingly sophisticated ways about text. The teacher reads the text for the students and talks with the children about the text before, during, and after the reading. Through the latter, students are guided through processing the text and expanding their understanding of its meaning and also learn about how texts work (Fountas & Pinnell, 2006).

In shared reading the teacher and children, either as a whole class or in small groups, read an enlarged version of a familiar text aloud, usually several times. The support provided by the group helps students process more-difficult texts than they could read independently.

Guided reading involves a teacher working with a small group of students who are grouped together based on similarities in their reading development at a particular point in time. Because most guided reading groups have only four to six students, this activity provides considerably more support for individual students than either shared reading or interactive read-alouds. In guided reading, the teacher selects a text at the group’s instructional level and introduces it in a way that assists students not only in reading it effectively, but also in taking on more of the reading process independently. For example, after a brief book introduction, the teacher supports individual students as needed during their reading. Following this, she engages students in a discussion of the text just read.

Throughout the lesson, the teacher focuses on one or more strategic teaching points directed toward key aspects of the reading process so that students are poised to master next. Depending on students’ needs, the teacher also may do some very specific work with word study (Fountas & Pinnell, 1996).

During interactive writing, the teacher and children use a large chart to collaboratively compose a text, word-by-word. This can be a whole class or small-group activity. At several carefully selected points, the teacher invites individual children to come up to the chart and make contributions by adding letters or words that have high instructional value in helping children learn about the construction of words (phonics) and the writing process (McCarrier, Pinnell, & Fountas, 2000).
In *writing workshop*, the teacher provides a mini-lesson on some aspect of writing. Students then are asked to write independently. While the class is engaged in this way, the teacher confers with individual students about their writing. Then the group reconvenes to share and discuss their writing. The teacher uses the mini-lesson and sharing period to reinforce a principle of writing and uses the conferences to offer individualized support and instruction to writers.

The final instructional component is *word study*. Here the teacher provides a mini-lesson on principles related to how words work and the rules of English spelling. The aim is for students to be able to apply the principle independently (Pinnell & Fountas, 1998). Although phonics and word study are embedded in all the previously described contexts, instruction during this activity is the explicit focus and it is planned, direct, and explicit.

Taken together, these six components of reading and writing instruction constitute a repertoire of practices that LC teachers weave together based on their pedagogical knowledge and in response to their observation of children. Ideally, the components are orchestrated so that children are supported to acquire new strategies and skills across multiple components and contexts.

The full literacy program in these schools also included supplemental instructional services for at-risk students. For example, each school provided Reading Recovery, a short-term intervention for first-grade students struggling to learn to read and write. These supplemental services, however, were not evaluated in this study. Our focus was on the effects of school-based professional development on teachers’ practice and student learning.

**Current Study**

We report here on results from a 4-year longitudinal study of 8,520 students served by 274 kindergarten through second-grade teachers in 17 different schools in eight states in the eastern half of the U.S. During Year 1, coaches were trained but no professional development was offered to teachers. During Years 2–4, coaches continued to teach children half time while now providing a range of professional development activities to their colleagues, primarily in the form of one-on-one coaching. Data on children’s literacy learning were collected across all 4 years. The data from Year 1 provided a baseline for examining effects of LC on student achievement. Data collected about professional development activities in Years 2–4 document the LC intervention and its effects on teachers.

The primary goal of the study was to investigate the effects of Literacy Collaborative on children’s literacy learning. By comparing student-learning gains from Year 1, prior to implementation, to results in Years 2–4, we were able to assess the value-added of the LC program on student learning. That is, the data on student learning during Year 1 established a performance baseline for each classroom and school. Data from the three subsequent years, when LC professional development was implemented, provided us with longitudinal evidence of LC’s effects. (Although not a randomized trial, the design employed here was a rigorous quasi-experiment.) Specifically, we compared *actual* student learning gains in Years 2–4, while LC professional development was being implemented, with what we would have *expected* to occur based on the first year’s results. If LC is effective, we should find positive value-added effects, increasing in size over the next 3 years as program implementation deepens and stabilizes.

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In addition to tracing children’s literacy learning over time, we also examined how professional development activities in the school proceeded and how those activities impacted teachers’ instructional practices. Here we asked literacy coordinators to maintain logs on two core professional development activities: workshops and one-on-one coaching sessions. We analyzed these logs to see how the work of coaches changed over the 3 years of LC implementation. We predicted that coaching activity would increase in terms of how many teachers were coached and how often they were coached.

We also asked literacy coordinators to provide rubric ratings of how frequently and how expertly teachers engaged in LC instructional
practices. We collected these data three times a year and analyzed these rubric scores for evidence of change in teachers’ practices over time. We also examined whether participation in LC professional development predicted any changes. We hypothesized that greater participation in coaching would predict greater improvements in instructional practice.

Results

A series of statistical analyses were undertaken to investigate (a) variation in coaching activity during LC implementation, (b) effects of coaching on teachers’ instructional practices, and (c) effects of LC professional development on student achievement. For all our analyses, we used versions of Hierarchical Linear Model analysis (Raudenbush & Bryk, 2002). This type of analysis allowed us to account for how schools, teachers, children, and the passage of time all contributed to various outcomes. Our core findings were:

1. Coaching increased over time, and school size was the most important predictor of how often teachers participated in coaching.

2. Teachers improved in terms of how often and how expertly they implemented LC instructional practices, and participation in coaching was the most important predictor of changes in classroom instruction.

3. Children’s literacy learning improved, and these improvements increased in size over the 3 years of LC implementation.

Although we briefly expand on each of these findings below, much more detail is available for interested readers. For further details about the coaching activity findings, see Atteberry and colleagues (in press). For more detail on effects on teachers, see Hough and colleagues (under review). And for more details on effects on student achievement, see Biancarosa and colleagues (2010).

Coaching activity

We found that, on average across all 3 years, teachers participated in about one coaching session per month (0.92 specifically). We observed considerable variability in teachers’ exposure to coaching among the 17 study schools. Figure 1 depicts these findings at selected points throughout the 23-month study period.

Of note, differences among schools in the size of their primary faculty (kindergarten through Grade 2 teachers) explained much of this variation among schools. We found that teachers in our larger primary schools (e.g., 22 faculty members) received on average about 0.60 fewer coaching sessions per month than in a more typical school with 12 K–2 staff. Turnover in school staff also affected overall exposure to LC coaching. In several study schools, coaches continued to introduce new cohorts of teachers every year to the LC program, while simultaneously seeking to deepen practice for other colleagues.

Teachers who entered a school after the initial implementation year received somewhat more coaching per month than those present during Year 1 of implementation. This suggests that as coaches developed some experience in this new role and became more adept at initiating coaching relationships with teachers, they were able to initiate more coaching more quickly. Consequently, as LC took deeper root in each school, one-to-one coaching began to function as a mechanism that socialized new faculty into the school’s instructional practices and work culture.

We also found that select individual teacher characteristics mattered. Coaches worked more frequently with teachers who took an active stance toward engaging their colleagues. They also worked more frequently with colleagues who reported strong commitment to their school (in surveys gathered during the base year prior to program implementation), and with newer teachers. Long-term coaching, such as practiced in LC, is an intense relational commitment. Not surprisingly, individual teacher beliefs, role orientation, and prior experience shape their openness to engage in this activity.

We also found that two school characteristics, beyond staff size, were associated with difference in the average amount of exposure to coaching. More coaching occurred in schools where literacy coordinators sensed strong support for the intervention during its early initiation in Year 1. Similarly, more coaching occurred in schools where faculty reported strong influence in local school decision making (as reported in our baseline Year 1 teacher survey). Taken together, these results are highly consistent with general findings on program implementation. Innovation take-up is more likely to occur when strong leadership and faculty buy-in exists at the outset.
Finally, whether or not the coach had prior experience with comprehensive literacy instruction and prior experience as an adult educator also matters. Coaches with stronger prior professional preparation conducted more coaching sessions per teacher per month than those with weaker prior preparation. We suspect that these prior experiences eased individuals into the LC coaching role, increased initial comfortable level and thus disposed them to coach more.

**Effects on teachers**

As expected, difference in exposure to coaching predicted both the amount and rate of change in teachers’ instructional practice over the course of the study. Teachers who participated in above-average amounts of coaching implemented LC practices with greater frequency and achieved this goal much more quickly. Similarly, more-active participants received higher overall ratings from their coaches on our expertise-in-enactment measure and demonstrated greater progress toward this goal than those who participated less. These relationships persisted even after we adjusted for effects associated with teacher beliefs, role orientation, and commitments as measured at the study outset.

Aligning with our results on teacher participation in coaching, we found that teachers new to study schools during the second and third year of implementation scored higher on both frequency of use of LC practices and on expertise-in enactment rubrics. LC coordinators offered stronger reports about these teachers in the first formal observations that they submitted (after the first few coaching sessions had occurred) than was the case with comparable faculty during Year 1. Teachers who entered study schools in Year 2 and Year 3 also showed evidence of improving their practices at a faster rate. Multiple explanations might be offered here. Once the LC program was launched, recruitment of new teachers might have focused on attracting individuals with greater prior background in comprehensive literacy. Coaches may also have become both more efficacious in their coaching efforts over time. We also know that the density of professional ties among K–2 teachers increased substantially in most schools as implementation proceeded (Atteberry & Bryk, 2010). A stronger environment of social learning among faculty in support of implementing LC offers still another possible explanation.

**Figure 1.** Cumulative Number of Coaching Sessions Per Teacher in the 17 Study Schools Over 3 Years of LC Implementation

*Note: Each line represents 1 of the 17 schools in the study.*
As with participation in coaching, teachers’ school commitment predicted how frequently and expertly teachers implemented LC practices. The school commitment measure summarizes teachers’ response to several survey items, administered during the base year, regarding their commitment to staying at the school and supporting its improvement efforts. We also found that teachers who reported previous experiences with comprehensive literacy instruction more readily implemented LC practices at the beginning of the study. Likewise, teachers who had actively engaged in professional development opportunities prior to this study also had stronger initial reports on expertise-in-enactment. In contrast, new teachers, defined as those with three or fewer years of classroom teaching experience when they entered the study, scored significantly lower.

Once teacher characteristics and frequency of participation in coaching were taken into account, no school context factors — including school size or perceived support for LC — account for residual variation in the frequency or expertise of LC implementation.

In sum, teachers who actively engaged in coaching improved instruction regardless of other school considerations. And, the degree of individual teacher engagement in coaching followed predictable patterns documented in other studies.

Effects on student achievement
Most important, LC had large positive effect on students’ literacy learning. Moreover, these effects increased significantly over the 3 years of implementation. Specifically, the average value-added effect during the first year of implementation resulted in a 16% increase in learning when compared with student academic growth in the base year. This value-added increased to 28% increase in Year 2 and to 32% in Year 3. These value-added effects convert into standard effect sizes of 0.22, 0.37, and 0.43 and are displayed graphically in Figure 2.

These estimated effects of LC control for differences in learning rates due to a student’s grade level and differential learning rates during the summer. As expected, we found that children tended to improve in their reading more quickly in first grade than in kindergarten or second grade. They also learn at a much lower rate, if at all, during the summer.

Finally, the results reported above are average effects. Our analyses also revealed significant variation in the value-added effects, both among schools and among teachers within schools. As one might expect given the findings on differential exposure to coaching summarized above, benefits from LC varied among schools, and among teachers within schools. Interestingly, this variation in effects increased over time. Future studies of LC would do well to explore in more depth why some schools and teachers benefit more than others. Such research would push us beyond documenting the overall, or on average, effects of LC to understanding better the conditions where LC works best. To be clear, virtually all schools and most teachers improved, but some considerably more than others.

Conclusion
Our study found that LC professional development has strong positive effects on both teachers and students. Nonetheless, a number of limitations...
must be acknowledged and can be taken as directions for future research.

Some measures that we expected to predict variation in the amount of coaching received and in the frequency and expertise of LC implementation did not do so. For example, our coach survey asked about orientation to trying out new practices. Prior research suggested that orientation toward innovation ought to predict how much and how quickly coaches took up their new role. We found no evidence of this. On balance, our sample of 17 schools was relatively small. As a result, the statistical power for examining differences between schools and between coaches was limited. Future studies in a larger sample of schools could be quite informative.

We also were limited in that we relied on literacy coordinators to report on the development of the teachers within schools rather than independent outside observers. The latter proved infeasible given the geographic dispersion of participating schools and associated cost of recruitment, training, and travel. Although intercoach reliability was established at the outset of the study and coaches were retrained every year to control drift over time, our findings on teacher development and its relationship to participation in coaching merit further validation. Given ongoing advances in classroom observation technology, future studies might be able to accomplish this without incurring prohibitive costs.

Finally, our longitudinal results documenting differences in the amount of coaching, teacher development, and student outcomes suggests that the quality (as well as frequency) of coaching might matter. It seems quite likely that as coaches gained experience in this new role, they also became more effective in orchestrating productive improvement conversations with teachers. Unfortunately, the current study did not include a measure of coaching expertise. Future efforts should attempt to develop such measures and explore the potential effects of changing coach expertise on both teachers and students.

So, even as our study provides robust evidence of the overall effectiveness of LC, clearly there is still much to learn. A spirit of continuous improvement should guide LC efforts going forward. As positive as the Literacy Collaborative program now appears, all programs — including LC — can further improve. Our findings suggest some possible next steps in this regard.

Author’s note: The work described here has been supported by a Teacher Quality Grant from the Institute for Educational Sciences, R305M040086. We are appreciative of the support provided by IES. All errors of fact, omission and/or interpretation are solely the responsibility of the authors.

References
Implementation


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