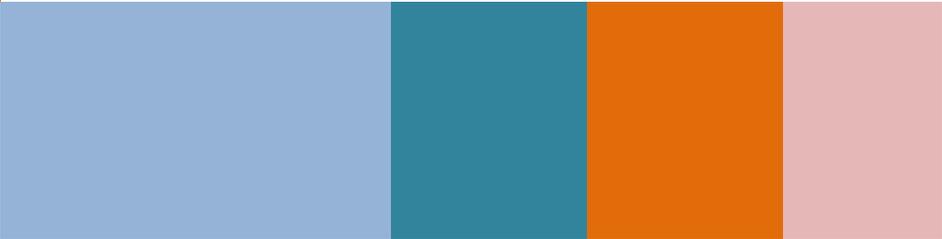
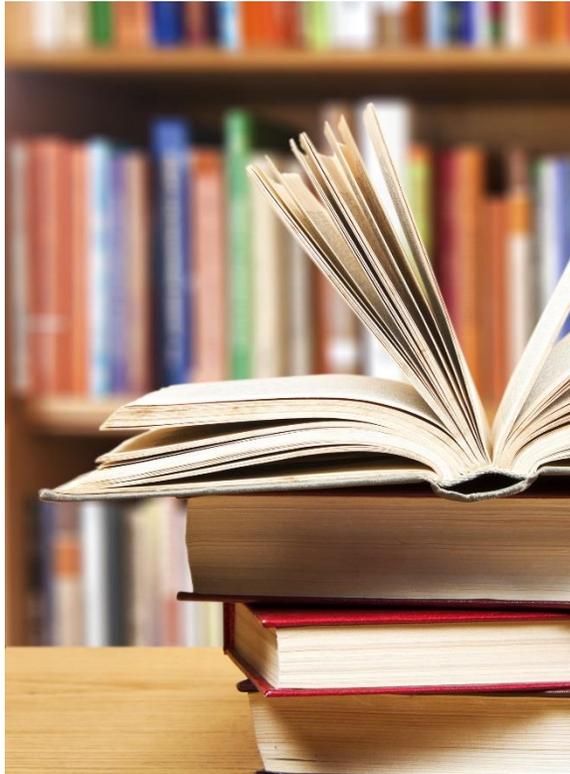


LIREC

Year 2 Final Report





Acknowledgments

Westat would like to acknowledge the support and contributions of the many administrators, teachers, staff, and students in the districts and schools who participated in this study. We appreciate their generous cooperation. We also extend our thanks to those interviewed in the case study sites and as part of the community capacity-building work. Without their cooperation and participation, the findings presented herein would not be possible.

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Executive Summary

The two-year Literacy Innovation through Rural Education Collaboration (LIREC) project worked with high-poverty rural schools and their local communities to improve literacy skills for preschool and early elementary students from fall 2014 through spring 2016.

LIREC offered an innovative two-pronged effort to improve literacy that included:

- professional development for teachers and creation of a collaborative culture supporting literacy within schools; and
- community literacy action teams to discuss needs and design activities to bring literacy resources to families in everyday settings.

The evaluation study addressed three research questions:

1. Did the LIREC professional development contribute to increased teacher use of effective literacy practices?
2. Did the community-focused approach to literacy development build local

capacity to increase and sustain support for ongoing literacy development?

3. Did the increase in students' exposure to effective literacy practices in school and community and access to books lead to increases in student literacy outcomes of: motivation-to-read; time spent reading; and literacy skills development?

Findings are based on the responses of 259 teachers (137 LIREC, 122 non-LIREC) who responded to a survey in both years of the study; and of 1,729 students (1,348 LIREC, 381 non-LIREC) who completed student surveys in both years. A subsample of students also completed a literacy skills assessment. Case study interview data collected at four schools and interviews with the community literacy liaisons for the LIREC sites offered additional insights about the LIREC project and capacity-building in the schools and communities.



Supports for Teachers' Capacity to Provide Effective Literacy Instruction

LIREC teachers participated in professional development during the school year and in the 2015 summer lab, and LIREC provided schools and teachers with access to high-quality fiction and non-fiction books. The findings showed:

- There was an **increase in literacy-related professional development** for LIREC teachers as compared to non-LIREC teachers. The LIREC teachers' increase resulted in equivalent levels of professional development for both groups. Also, in case study interviews, teachers described increased literacy-focused professional development on use of new literacy strategies.
- Teachers' responses to the surveys indicated the majority had 100 or more books in their classrooms at the start of the study. No increase was observed from fall 2014 to spring 2016. However, case study interviews indicated that teachers and students appreciated the quality and content of the LIREC books.

Effects of LIREC on Literacy Practice

LIREC professional development is expected to increase teachers' knowledge and use of effective literacy practices, including collaboration, use of effective literacy instruction, and development of shared vision for what effective literacy instruction looks like. The findings indicated:

- LIREC teachers' **collaboration around literacy instruction** showed a small, but significant, increase from fall 2014 to spring 2016 compared to the non-LIREC

teachers, resulting in approximately equal collaboration levels for the two groups. Supporting this finding, teachers in all four of the case study schools reported that they were encouraged to collaborate, had more opportunities to collaborate, and their collaboration was related to literacy instruction.

- LIREC teachers and non-LIREC teachers overall were similar in their use of effective literacy instructional practices; there were no differences between the two groups' reported use over time. However, the findings also provide some indication of beginning steps toward use of effective literacy practices:
 - Case study teachers reported that they actively incorporated new skills and literacy strategies acquired through LIREC professional development into their practice.
 - **A small, but significant increase over time was found for LIREC main classroom/core content teachers' use of effective literacy practices as compared to non-LIREC main classroom/core content teachers.** Although LIREC is a whole-school intervention, such practices may first be used more by main classroom teachers than others.
- There were no differences over time found for the LIREC and non-LIREC teachers in shared vision for literacy instruction. The responses of both groups indicated scores at about the midpoint of the possible range. Case study teachers reported more discussion, sharing of goals, and sharing of literacy approaches, which they attributed to LIREC.



Parent and Family Engagement to Support Literacy

Overall, teachers' survey responses did not indicate increases in communications with parents. Case study teachers noted barriers to engaging with parents, such as long distances to travel to the school and lack of transportation. However, new outreach efforts and events at the schools in response to LIREC were also noted by interviewees.

Local Community Capacity to Support Literacy

Interviews with the local community literacy liaisons indicated progress was made in Year 2 toward full implementation of the community-related literacy intervention. Findings were:

- Community Literacy Action teams were in place and active in all of the LIREC sites, developing activities and events to highlight literacy and share books within the community.
- Book Distribution Plans had been developed in all but one site.
- The teams had identified and recruited a range of local partners to assist in supporting literacy; these included partners such as churches, libraries, social services offices and doctors' offices.

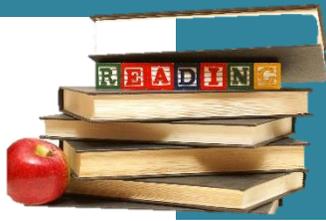
Student Literacy Outcomes

LIREC is expected to lead to gains for students in motivation-to-read, reading-related activities, and literacy achievement. However, there were no gains for LIREC as compared to non-LIREC students on the student outcome measures. There were gains for both groups across the two years.

Summary and Recommendations

Overall, the findings showed only limited, small changes thus far for the predicted instructional and community capacity outcomes. However, the LIREC implementation required a long period of start-up and, as of the end of Year 2, was completing only its first full year of implementation. Overall, the findings suggest a complex intervention that still was taking shape in spring 2016. While there are not strong findings for outcomes, the data suggest that change was beginning to occur for teachers and communities in ways that the LIREC logic model predicts would ultimately lead to improvements in student literacy outcomes. The findings also lead to recommendations regarding aspects of LIREC which may benefit from further definition and/or refinement of the intervention.





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Introduction

The LIREC Project

The two-year Literacy Innovation through Rural Education Collaboration (LIREC) project worked with high-poverty rural schools and their local communities to improve literacy skills for preschool and early elementary grade-level students. LIREC was designed to support children in developing both the foundational literacy skills and the motivation for literacy that they will need for future academic success. The LIREC design focused on two sets of activities:

- *Within the school*, LIREC activities offered teachers professional development and promoted collaborative cultures for effective instructional practices. LIREC's goals were to support teachers in reshaping their instruction based on LIREC principles and in using new, high-quality fiction and nonfiction books in their

classes. These were expected to create new ways for students to be engaged in and motivated by literacy learning activities.

- *Within the local community*, literacy liaisons brought together groups of community members to think about the literacy resources and needs in their communities. Group discussions were structured to enable the members to develop a new awareness of how to help families and children value and enjoy literacy. As a community, they planned and carried out activities that brought literacy resources and activities to families in common everyday community settings.

This two-part approach was intended to create seamless environments for young children to promote their interests and abilities in reading and ultimately promote



their longer term literacy and academic achievement. The logic model for the project (appendix A) outlines the theory of change. It depicts the inputs and activities that were theorized to contribute to the LIREC outcomes. The activities conducted over the two years of the study were:

- Professional development and planned collaboration time related to literacy for teachers;
- Summer literacy labs to support students to improve literacy skills and assist teachers in gaining new skills in effective literacy instructional practice through daily coaching and instructional practice;
- Facilitation of local community literacy action teams that worked to build awareness of literacy and to increase literacy resources within the local community; and
- Book distribution to provide access to high-quality fiction and non-fiction both within the schools and classrooms and in the local communities.

Examining LIREC Outcomes

The evaluation focused on the predicted outcomes of the LIREC program. Three primary questions guided the study design and the analyses:

- Did the LIREC professional development contribute to increased teacher use of effective literacy practices?
- Did the community-focused approach to literacy development build local capacity to increase and sustain support for ongoing literacy development?
- Did the increase in students' exposure to effective literacy practices in school and community and access to books lead to increases in student literacy outcomes of:
 - motivation to read;
 - time spent reading; and
 - literacy skills development?

A mixed-methods approach was used to gather information on these three questions. Exhibit 1 below outlines the sources of information used to address each.

Exhibit 1. Research questions and data sources for LIREC outcomes

Research questions	Data source
<ul style="list-style-type: none"> • Does the LIREC professional development contribute to increased teacher use of effective literacy practices: collaboration, effective literacy instruction, and a shared vision of effective literacy instruction? 	<ul style="list-style-type: none"> • Teacher survey • Case study interviews
<ul style="list-style-type: none"> • Does the community-focused approach to literacy development build local capacity to increase and sustain support for ongoing literacy development? 	<ul style="list-style-type: none"> • Case study interviews • Community literacy liaison interviews
<ul style="list-style-type: none"> • Does the increase in students' exposure to effective literacy practices in school and community and access to books lead to increases in student literacy outcomes of: <ul style="list-style-type: none"> — motivation to read; — time spent reading; and — literacy skills development? 	<ul style="list-style-type: none"> • Student motivation-to-read scales • Student survey items on reading activities • Student literacy assessment (PALS e-Word Recognition in Isolation Task)



Study participants and data sources. The study examined the LIREC outcomes through teacher and student surveys, a student literacy skills assessment, case studies in four schools, and interviews of literacy liaisons representing 17 school-community sites. The anticipated key findings were increases over time in the outcomes for teachers and students in LIREC schools and communities as compared to those for non-LIREC teachers and students. The analyses focused on the outcomes for the subset of 259 teachers (137 LIREC, 122 non-LIREC) and 1,729 students (1,348 LIREC, 381 non-LIREC) who remained in study schools in both years of the project (from fall 2014 through spring 2016). For students, an additional criterion was that there were demographic background data available for individual students.¹ A subset of students (137 students; 98 LIREC and 39 non-LIREC) took part in the literacy assessment, the Word Recognition in Isolation subtask of the Phonological and Awareness and Literacy Screening assessment (PALS e-WRI).

The study included 17 LIREC treatment and 9 non-LIREC schools in the second year of the study. The analyses of student data were limited to students from 20 schools (16 LIREC and 4 non-LIREC) that were able to provide student demographic data. All of the study sites included a school and its local community, and all are located in high-poverty, rural regions in five states (Arizona, Illinois, North Carolina, Vermont, and West Virginia). The rural communities overall have limited access to commerce, technology and

other resources. Similarly, access to literacy resources is very limited. For most families in these communities, there is no public library nearby and no public transportation to access public libraries that may be an hour's drive away. Some of the schools draw from very large geographic areas and widely dispersed households. Also, for some of the LIREC local communities, the community was considered county-wide (i.e., district-wide) and not limited to one school.

Analyses. The majority of the analyses of survey and assessment data looked at change from fall 2014 (at the beginning of the LIREC grant) to spring 2016 for teachers and from spring 2015 to spring 2016 for student outcomes. A small number of analyses also examined change in teacher responses from fall 2015 to spring 2016 for practices included in the Year 2 survey only. Teacher survey items were combined to create scores² for collaboration, effective literacy instructional practices, and shared vision for effective literacy instruction. The findings from the case study and liaison interviews were used to offer additional insights on the quantitative findings and to overall broaden the understanding of the LIREC work and outcomes. The discussion of findings in the following sections primarily reports areas where there was a significant difference between groups. Nonsignificant findings are included in some limited cases where they contribute to a deeper understanding of the issue.³

¹Appendix B provides detail on the sample and data collection instruments.

²See appendix C for description of the factor analyses conducted and the factor scores obtained.

³If included, nonsignificant findings are identified as such, and the reason for including them is described.



Note on LIREC Implementation

It is important to qualify study results with the observation that the LIREC intervention required a long period of startup. As of the end of Year 1, there were core LIREC elements still in development, particularly within the community component. This is not surprising, given that LIREC is a complex intervention, involving both school change and community initiatives. Year 2 represented the first full year of implementation in the schools, building from the foundation of the first year and the momentum of the 2015 summer learning labs. In the communities, the work of local community literacy action teams was still in development into the second

year, rather than completed as originally anticipated. For these reasons, it is premature to draw strong conclusions about LIREC's effectiveness. Instead, this report may be a useful tool to prompt review of the LIREC model and to assess next steps for future LIREC work.

Organization of this Report

This report begins with a summary of LIREC's supports for teacher capacity to provide effective literacy instruction. The next section describes findings on outcomes related to the three research questions. These findings examine teacher effective literacy practices; parent/family engagement; capacity developed in the local communities; and student outcomes. The last section summarizes the findings and offers recommendations.





Supports for Teachers' Capacity to Provide Effective Literacy Instruction

LIREC introduced key inputs to the schools to support teachers' capacity for effective literacy instruction with their students. Teachers had opportunities to participate in professional development focused on literacy during the school year and in the 2015 summer lab. LIREC also provided teachers with access to high-quality fiction and non-fiction books, critical resources for their instructional practice. The analyses examined LIREC and non-LIREC teachers' responses to survey items on professional development received and on the number of books in their classrooms.

- Overall, the findings showed an increase in professional development support for LIREC teachers, but did not show an increase in the number of books in the classrooms.
- Case study interviews with teachers offered additional perspectives on the role of the LIREC professional development in supporting their practice. These interviews also indicated that teachers appreciated the quality and content of the LIREC books.



Professional Development During the School Year and the Summer

The LIREC professional development was a key first step and an ongoing core element of the LIREC intervention. The professional development began in winter and spring of 2015 and continued in Year 2 (2015–16 school year). These efforts were designed to support teachers in taking on a new, more collaborative approach to their professional development and work as teachers. The professional development also introduced specific effective literacy instructional practices, with a focus on:

- interactive “read-alouds” in which the teachers focused on asking higher order questions of students as they read with students; and
- activities to prompt students’ writing, such as writing in response to a book they had read.

At the close of Year 1 (summer 2015), a subset of teachers at each school also took part in summer learning labs, most of which were two to three weeks long. The teachers at each school structured the labs with LIREC guidance. The labs served dual purposes: (1) students received literacy skills instruction and (2) teachers had the opportunity to collaborate on, try out, and reflect on their use of LIREC literacy instructional practices. The assumption was that the teachers would share what they learned with other teachers in their schools in the subsequent 2015–16 school year.

The evaluation addressed two questions with regard to these experiences: Did the LIREC teachers indicate increased participation in literacy professional development compared to non-LIREC teachers, and what were the perceived benefits? The findings from the survey responses and from the case study interviews indicated that LIREC did lead to increased participation in literacy-related professional development, and that LIREC teachers reported benefits from their participation:

- Survey data showed an increase over time (from fall 2014 to spring 2016) in the average hours of literacy professional development reported by LIREC teachers as compared to non-LIREC teachers. LIREC teachers increased from an average of about 1 to 5 hours of professional development in fall 2014 (for the half-year period reported) to approximately 6 to 10 hours on average in spring 2016. The non-LIREC teachers’ responses for both time periods showed an average of about 6 to 10 hours of professional development.⁴

⁴The patterns of responses to the item are informative of the underlying changes. For example, in spring 2016, 27 percent of LIREC teachers reported the highest level of professional development hours available as a response option, i.e., more than 15 hours. This was nearly four times the percentage indicating the highest level at the beginning of the LIREC project (7 percent of LIREC teachers in fall 2014). In contrast, non-LIREC teachers showed no change. About 19 percent of non-LIREC teachers in fall 2014 and 18 percent in spring 2016 indicated more than 15 hours of literacy-related professional development.



“There’s professional development going on that didn’t take place before.”

LIREC school principal

- Teachers in the case studies reported more engagement in literacy-focused professional development and collaboration efforts and greater focus on literacy than had been the case in the past. The collaborative professional development activities included ongoing coach-led sessions, strategy-specific workshops, and peer-to-peer shared learning. Teachers also reported using LIREC resources (e.g., articles, video clips, books) to prompt discussion and guide practice.
- The case study teachers noted that they learned strategies that made their collaboration time more productive. At one site, teachers reported that they used protocols to structure and guide their collaboration and discussion in professional development sessions.
- Case study teachers also reported sharing LIREC professional development experiences with others in their schools. For example, teachers who attended strategy-specific workshops, including an interactive writing workshop, shared what they learned with their colleagues on their return to their schools. Similar sharing occurred after the 2015 summer lab. Interview respondents noted that teachers who attended the 2015 summer lab were paired with new teachers who had not attended the lab to share the training. Two sites also made mention of teachers engaging in grade-level professional learning with teachers in other schools.



The benefits of professional development were perceived to be important in promoting change by those who participated in the summer lab in 2015.

- The survey responses indicated that the majority of the summer lab teachers, about four out of five, either agreed or strongly agreed that their summer lab experience led to substantial changes in their instruction in two key areas given focused attention in LIREC. These were conducting interactive read-alouds with their students and changing their instruction to include more writing, using writing activities to a greater extent than they had in the past.
- Case study interview respondents reported that the professional development efforts that began during

the 2015 summer lab continued throughout the following 2015–16 school year. Several interview respondents (e.g., LIREC coordinators, instructional leadership team members, and principals) suggested that the summer labs set in motion more frequent and more focused collaboration among teachers during the subsequent school year.

Materials Supports for Teachers: Books in the Classroom

An important goal of the LIREC was to provide high-quality, authentic literature, both fiction and non-fiction, to schools to improve the quality of the literacy experiences for students and to offer teachers richer sources of materials for instructional activities. This goal included one of ensuring that there would be books in classrooms where it was assumed there previously were no classroom libraries or very few books. LIREC provided sets of books to the schools and stipends to teachers to order books. Teachers were able to order from a cost-effective provider of high-quality books with a wide range of content and subject matter relevant to diverse student backgrounds.

Given that LIREC provided new books, responses on the teacher survey were somewhat puzzling:

- There was no change over time in the reported number of books for LIREC as compared to non-LIREC teachers.

The response patterns suggest that there may have been a ceiling effect operating.



- Approximately 60 percent of respondents indicated that their classrooms included 100 or more books as of fall 2014.⁵

Also, anecdotally, the LIREC program staff learned that some teachers (in perhaps as many as six schools) gave away their older classroom library books to students or to the community as they replaced them with the newer LIREC books.

The number of books was not the sole criterion of change in access to literacy resources. LIREC emphasized the importance of high-quality authentic literature that is interesting to students and relevant to their lives and to their learning.

- In the case study interviews, teachers noted that their students appreciated and were motivated by the quality and content of the LIREC books they received.
- The case study teachers reported that they were able to order books that were relevant to their curriculum and/or that represented the students' background experiences and cultures, which made the books far more engaging for the students and useful in instruction.

⁵ Additional analyses explored the possibility that a change in the number of books might be seen more in responses of main classroom/content area teachers, as they may be more likely to have the space for a classroom library and the need for a range of books as compared to, for example, resource teachers. Again, there were no significant differences over time for LIREC versus non-LIREC teachers. However, the response patterns suggest that some change was beginning to occur in classrooms that LIREC particularly hoped to target: While in fall 2014 a small number (six) of LIREC main classroom/content teachers reported having no classroom library or very few books, by spring 2016, all LIREC teachers reported having 26 or more books. For the non-LIREC teachers, one teacher reported no books and one teacher reported very few books in both fall 2014 and spring 2016.





Effects of LIREC on Literacy Practice

Key goals for LIREC were that teachers would report higher levels of collaboration, greater use of effective literacy instructional practices, and an increase among staff in a shared vision of what effective literacy instructional practice looks like. The analyses examined LIREC and non-LIREC teachers' responses to sets of survey items for fall 2014⁶ and in spring 2016.

Overall, the results show only limited, small changes thus far for most of the desired instructional outcomes. Some of these changes were found only for the subgroup of teachers identified as main classroom teachers or content area teachers.

⁶Fall 2014 responses were provided retrospectively when teachers responded to the spring 2015 Teacher Survey.

Descriptions drawn from the case studies and from the interviews with the community literacy liaisons identify where hoped-for changes were beginning to occur. The interview findings offered a window into activities and accomplishments that suggested a complex intervention that still was taking shape.

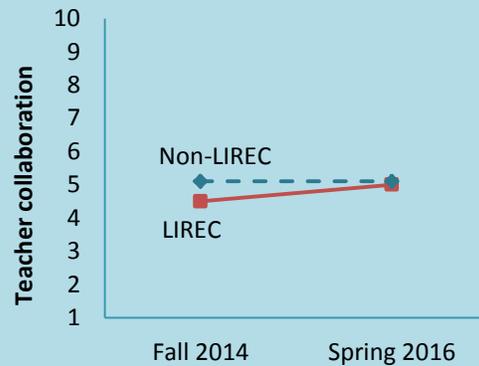
Collaboration

LIREC effective literacy practices focused on collaboration as an essential element of teacher professional and instructional practice. In the LIREC model, teachers collaborate with other teachers on literacy instruction. They also use classroom learning activities that engage students actively in literacy activities with peers and/or working collaboratively with the teacher and peers.



- LIREC teachers' collaboration showed a small increase over time compared to the non-LIREC teachers. This change was such that, by spring 2016, both groups were nearly equal in scores, and both showed moderate levels of collaboration, even though initially the non-LIREC group reported greater collaboration (exhibit 2).
- Responses to the survey for both groups of teachers indicated moderately high use of collaborative instructional activities with students, and there was no difference over time observed for LIREC as compared to non-LIREC teachers. Examples of collaborative instructional practices included teachers' giving students opportunities to work together in groups, allowing for student-driven discussions, and instructional work in which the teacher and students collaborated to write a text.
- The interview data supported the survey findings. In all four of the case study schools, teachers reported that they were encouraged to collaborate, had more opportunities to collaborate, and their collaboration was related to literacy instruction. Teachers reported that they had more time to meet, plan, and share and that there was more open, transparent communication among teachers than in the past.

Exhibit 2. Teacher-reported collaboration: Factor scores for LIREC and non-LIREC teachers, fall 2014 and spring 2016



Note: Findings are based on all teachers who responded in both Years 1 and 2: LIREC $N = 137$, non-LIREC $N = 122$. The range possible for collaboration factor scores was 1.66 to 9.97.
Source: LIREC Teacher Survey, spring 2015 and spring 2016. Each survey included retrospective questions about the preceding fall.

Teachers who might have once resisted sharing student work or opening their classrooms to other teachers because it seemed a judgment of practice, began to come into teacher team meetings saying, “here’s my kid’s work, what do I do about this student?”



Use of Effective Literacy Instructional Practices

Teachers responded to a set of survey questions on use of specific literacy instructional practices that together support students' literacy. Examples of such practices included reading aloud with students, allowing time for students to read independently with books they chose themselves, and having students write original texts. The responses to the set of these and closely related items formed a combined factor score on effective literacy instructional practices for fall 2014 and spring 2016, and these were used for analyses examining change over time for the groups.

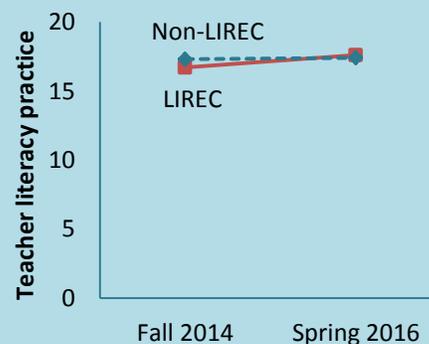
There were also two items on effective instructional practices that were only asked in spring 2016 and retrospectively for fall 2015. Analysis of those items examined for change across Year 2, from fall 2015 to spring 2016.

- Teacher survey responses showed that LIREC teachers and non-LIREC teachers overall were similar in their use of effective literacy instructional practices, with no differences seen between the two groups over time. Both LIREC and non-LIREC teachers indicated moderately high levels of effective literacy practices. The pattern of scores for both groups was in the direction of some gains in Year 2.
- A further exploratory examination found a small increase over time for LIREC main classroom/content teachers compared to non-LIREC main classroom teachers for use of effective literacy instructional practices. The factor scores indicated that LIREC main classroom teachers increased in reported use of effective literacy

instructional strategies, such that by the end of Year 2, the two groups (LIREC and non-LIREC) were approximately at the same level.

- LIREC teachers showed very small increases on their reported use of the two LIREC effective instructional practices from fall 2015 to spring 2016 (i.e., over Year 2) as compared to non-LIREC teachers. The practices were engaging students during read aloud with questions the teachers planned in advance and engaging students in shared reading from a common text. The responses on average indicated that both LIREC and non-LIREC teachers used these practices weekly.

Exhibit 3. Teacher-reported literacy instructional practice: Factor scores for LIREC and non-LIREC main classroom/content teachers fall 2014 and spring 2016



Note: Findings are based on main classroom/content teachers who responded in both Years 1 and 2: LIREC $N = 98$, non-LIREC $N = 86$. The range possible for effective literacy instruction factor scores was 3.42 to 20.51.
Source: LIREC Teacher Survey, spring 2015 and spring 2016. Each survey included retrospective questions about the preceding fall.



- Teachers in the case study interviews described changes in their classroom practices as a result of their participation in LIREC. These changes included using new LIREC literacy instructional skills and strategies with their students. For example, they emphasized interactive read-alouds and strategies to improve student writing.

As a result of the new approaches to literacy instruction gained in the LIREC professional development—coupled with improved literacy resources—one teacher described her instruction as “richer.”

Teachers in another school reported that they felt they were seeing increased levels of performance among their students as a result of their changed literacy instructional practice.



Shared Vision for Literacy Instruction

There was no difference observed for LIREC as compared to non-LIREC teachers over time in their shared vision for effective literacy instruction. Teachers in both groups provided responses that resulted in shared vision factor scores that were at about the midpoint of the range of scores obtained.

The case study findings offered additional perspectives on the development of shared vision:

- Teachers in the case studies reported changes that suggested some progress

toward a shared vision for literacy instruction. Teachers reported more discussion and sharing of goals and discussion of literacy approaches that they attributed to LIREC. For example, a teacher described teachers in the school as “more on the same page” regarding early literacy than was the case before LIREC.

- The case studies also highlighted the high mobility in the rural schools, a factor that poses major challenges for creating a culture of shared vision for literacy instruction. Within the four case study schools, there were substantial staffing transitions. Three of the schools had a new principal, and two reported turnovers in teaching staff. Significantly, in one school, three of four teachers who participated in the 2015 LIREC summer lab did not return to the school.



Prompted by their LIREC work, one case study school team of teachers held a “visioning session” on writing to discuss writing skills and agree on the competencies that students should gain during the school year.





Parent and Family Engagement to Support Literacy

The LIREC project also promoted engaging parents and family members in supporting literacy, for example, by communicating with them about how they can support their children's learning.

- Overall, teachers' responses did not indicate increases in communications with parents.
- Both LIREC and non-LIREC teachers' responses indicated that parents most frequently assisted in the classroom in three ways: reading/writing with students, assisting students with academic work, and assisting in administrative duties.
- The majority of both LIREC and non-LIREC teachers (about 70 percent in spring 2016) indicated that they regularly gave students time to check out books from the classroom library. Similar findings

were observed for giving students time to check out books at the school library.

- Approximately 30 percent of LIREC and non-LIREC teachers indicated that parents could check books out of their classroom libraries.

Case study teachers commented on several barriers to engaging with parents. Barriers included the often long distances to travel to the school and the lack of transportation to events and families' and teachers' demanding schedules. Teachers also reported perceptions of apathy among family members and/or of families' discomfort because of the parents' or family members' own lack of education. In the case of Native American families, the respondents noted a community





Local Community Capacity to Support Literacy

The LIREC project aimed to promote collaborative capacity-building and support for literacy development within local communities. Within the LIREC model, when capacity to support literacy is increased within the schools and the local community simultaneously, students' literacy skills are expected to increase.

The interviews with the local community literacy liaisons provided evidence of increases in community capacity to support literacy development in children. Below are results related to community capacity-building and the status of community literacy action teams, their activities, and the status of the community action plans; partnership development; and supports and barriers to the effort:

- The community literacy liaisons reported that more progress had been made in Year 2 than in Year 1 toward achieving the community engagement work as planned under the grant. Important themes related to this implementation that were noted consistently in the interviews included enthusiasm for the work and the broad participation of community members in terms of the types of people included (e.g., retirees, stay-at-home mothers, and ministers).
- Liaisons reported on specific activities either accomplished or in progress to support LIREC goals. Examples included:
 - All communities had a Community Literacy Action team in place.
 - All but two sites had started or completed the community dialogue circles. The circles convene community



members in a series of meetings to discuss literacy.

- All but one site reported having developed a Book Distribution Plan, and sites reported this was a main focus of their work during the 2015–16 school year.
- The methods for distributing books in the community differed across the sites. Activities included creating mini-libraries or book drops, holding school-based events, and distributing books through community-based events.
- Although not a major emphasis across the interviews, a few coordinators mentioned a deliberate intent to procure at least some books that reflected the local culture and heritage.

The community action teams were implementing their activities as they worked to develop their formal Action Plans. Nearly all sites held or were planning to hold the Community Action Forum, and all but three sites reported planning or near-finalizing a Community Action Plan. Liaisons in two sites reported a finished plan.

Local community literacy action teams identified and recruited partners within their communities to support literacy. In each site, the team worked with its local organizations, which led to variation and diversity of partnering across sites. Partners included local public libraries, churches, civic organizations (e.g., Lion’s Club), social services offices (e.g., Social Security), and local businesses (e.g., funeral homes, hair salons, doctors’ offices). Partners supported the teams with actions ranging from passive support such as agreeing to place books in

their offices or locations to actively coordinating book distribution and offering sites to host meetings; sometimes, partners offered financial support or a donation.

Community Literacy Action Teams

Community literacy liaisons were tasked with creating a team of volunteers within their community to work together to build broad local support for the importance of literacy. Working together, each team’s discussion and activities were to result in a shared understanding of the value placed on literacy within their communities, a vision for how to improve awareness of the importance of literacy development in young children, and plans for how to support literacy in the local area. Their work was to begin by deciding on a plan for how to distribute books provided through the LIREC grant, creating a written plan for taking action (Community Literacy Action Plan) to support literacy, and implementing the plan. This includes a community-wide event to promote literacy (Community Action Forum).



Supports for and Barriers to the Teams' Work

Almost all of the literacy liaisons reported strengthening a shared sense of community and shared awareness of a community's ability to work together to address the need to build support for literacy. This shared sense surfaces as a strength of the potential LIREC's community capacity-building work holds for a community. Across sites, challenges and areas of need included lack of financial resources; lack of community-wide participation; lack of community literacy infrastructure; wide geographic areas to cover; difficulties in communicating with team members due to lack of Internet access, phone service, and/or transportation; and a lack of parent and family support for schools and literacy.

Connections between LIREC School and Community Efforts

As a two-part effort, LIREC envisioned a community-wide collaboration focused on literacy through the school and local community working together. In fact, several of the liaisons in Year 2 were also current or former school staff. The case study and community liaison interviews offered findings on the types of connections between the LIREC instructional efforts in the schools and the local community efforts. Also, the teacher survey included an item that directly asked about awareness of or involvement in the LIREC community efforts.

- Local community liaisons reported that the literacy action teams conducted activities that were held in the schools

Local community literacy liaisons reported that the community teams engaged in activities linked to schools: hosting school literacy nights, opening the school libraries to the community during the summer, and partnering with high school clubs to help students earn volunteer credits by supporting the early learning literacy-related work in the community.

and/or involved coordination with the schools.

- The majority of LIREC teachers and close to half of non-LIREC teachers were at least aware of the LIREC community component. Eighty-four percent of LIREC teachers and 48 percent of non-LIREC teachers were aware of the ongoing LIREC community work.⁷
- Of note is that there were both LIREC and non-LIREC teachers who indicated that they served as a community liaison or as a member of the community team. There were 18 LIREC teachers and 8 non-LIREC teachers who indicated participation.

⁷The percentages are valid percentages of those who responded. However, approximately 16 percent of both LIREC and non-LIREC teachers did not respond to the survey item. This is a high level of missing data compared to the data on responses to other items. It may be that some teachers skipped the item because they did not know about the LIREC community component.



The large proportion of non-LIREC teachers who were aware of or participating in the community component is not surprising given that many of the non-LIREC schools also were

part of the same local regions. This is one facet of the LIREC design that presents challenges for a clear comparison between LIREC and non-LIREC teachers and students.⁸

⁸The finding also is similar to the earlier finding that a small number of non-LIREC group teachers reported taking part in the summer lab in 2015 (and subsequently were excluded from the non-LIREC analysis sample).





Student Literacy Outcomes

Overall, LIREC students did not demonstrate gains compared to non-LIREC students in motivation to read, participation in reading-related activities, and literacy achievement—the outcomes expected from the LIREC implementation. Findings were:

- LIREC and non-LIREC students' survey responses indicated similar moderate-to-high levels of motivation to read. There were no differences over time between the groups.
- Overall, both LIREC and non-LIREC students reported moderate frequency of reading activities outside of school (e.g., between “some days” and “most days” on the scale).
- The subgroup of older LIREC students (those in grades 3 and 4 as of 2015–16,

Year 2) as compared to the older non-LIREC students indicated a small decrease in reading by themselves outside of school. The non-LIREC students remained steady in level of reading reported.

- Students' scores on the literacy assessment (i.e., the PALS Word Recognition in Isolation, *e-WRI*, task) were on average moderately high for both groups of students, and both LIREC and non-LIREC students improved over time. There were no differences for LIREC as compared to non-LIREC students. In spring 2015, the students in both groups scored at the mid-third- or low-fourth-grade level, and by spring 2016, their average scores increased to mid-fourth- or low-fifth-grade level.





Summary and Recommendations

LIREC was supported through an Innovative Approaches to Literacy grant from the U.S. Department of Education. The focus of the LIREC project was to build both instructional capacity in the schools and capacity in local communities to support students' literacy development. Combined, the two-part approach was intended to promote a collective ownership of literacy that was shared and supported as a goal for all members of the community. The community-wide focus on literacy was expected to assist in students' development of literacy both in school and out of school.

Summary

Overall, the results showed only limited, small changes for most of the desired instructional and community capacity outcomes. It is important to qualify these study results with the observation that the LIREC intervention required a long period of

startup and, as of the end of Year 2, was completing only its first full year of implementation. In the communities, the local literacy action teams were still in development in this second year of the grant, rather than completed as originally anticipated.

Despite the limited period for implementation of the two LIREC components, descriptions drawn from the case studies and from the interviews with the community literacy liaisons identify areas where hoped-for changes were beginning to occur, both among teachers and among community members.

Given the limited evidence for change in building capacity observed thus far, it is not surprising that the findings do not yet show the intended outcomes outlined in the logic model for LIREC students. However, it is premature to draw strong conclusions about LIREC's effectiveness. Instead, the

findings thus far offer a window into activities and accomplishments that suggest a complex intervention that still is taking shape.

Recommendations

The study findings suggest several next steps for consideration in further work with LIREC.

Review and update the LIREC logic model.

Some elements of the logic model were not clear in their definition and in the predicted relationships with other elements in the model. For example, the definition of various areas of capacity can be clarified.

Review the definition of local community and strengthen requirements for this component. It may be helpful to provide parameters to use in identifying a LIREC local community. The local community in some cases was a region immediately surrounding and associated with an individual school. In other cases, it was defined in practice by one or more liaisons working with a district/county-wide community that included more than one elementary school and was much less “local” to a LIREC school.

These differences may be important to the operation of the LIREC model and should be given additional consideration. For example, the challenge of building community and community support for literacy may be more manageable, and less daunting, if initially confined to the community around a single school. A more localized definition of community might also increase the likelihood of a more focused local effort, and one that is more likely to engage in collaboration across school and local community.

Assess whether the role of community literacy liaison should be held by a current or former school system employee versus a community-based resident. Nine of 11 liaisons interviewed for this study were affiliated with the school systems; two were not. Future research should examine whether the role and school affiliation of the liaisons relates to the success of LIREC’s community-based component and to the overall school and community linkages.

Consider providing additional guidance to school leadership teams and community literacy action teams about building connections across schools and communities. The original LIREC logic model called for an over-arching team that would bridge efforts across the two. The case study and community literacy liaison interviews provided some evidence of connections between schools and communities. It may be helpful to give further consideration to providing guidance and/or specific structures to ensure integration across the two-part approach.



Limitations of this Evaluation

The evaluation also noted some limitations. Certain measures used for outcomes were not as useful as anticipated. For example, the literacy skills assessment (PALS e-WRI) may not have been sensitive enough to changes in students' literacy outcomes. A measure that examined reading skills and/or reading comprehension may have been more sensitive (although the burden on schools precluded adding such measures in this study). In addition, a stronger baseline literacy assessment would be one conducted prior to the LIREC entry into the schools.

Identifying appropriate comparison students and teachers is a challenge for the two-part LIREC model. The most comparable schools are those within a similar region and local context; yet the LIREC intervention includes the local community as well, which may often

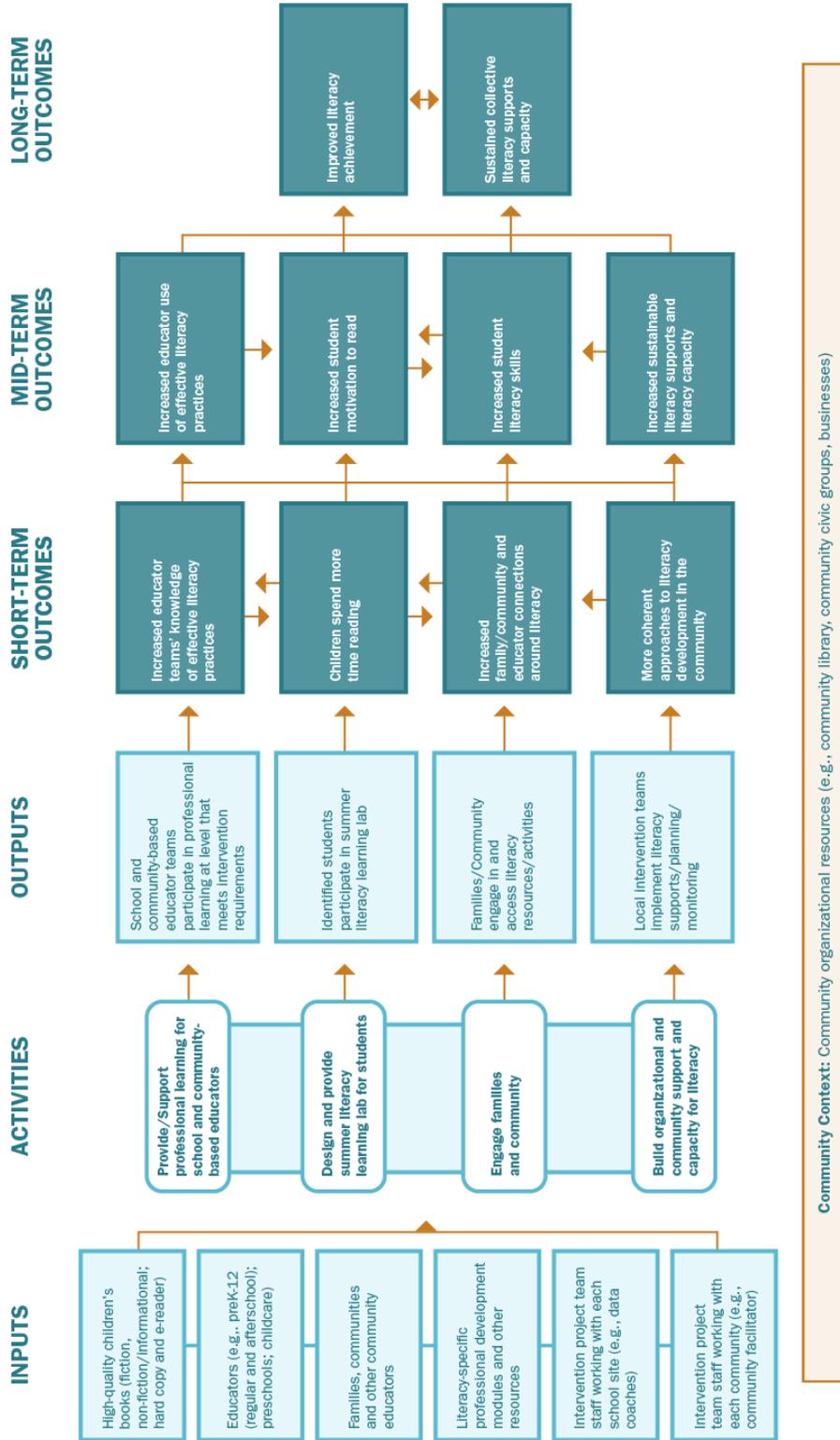
also include the comparison school. This aspect of the LIREC model may have resulted in contamination beyond the areas noted in this report. Future research will need to give additional consideration to how to best define a comparison group.

Some limitations in the findings may be related to the specific data collection instrumentation. For example, the range of options for the teacher survey item on number of books showed evidence of a ceiling effect. Also, the use of literacy liaison interviews alone for assessing the capacity developed in the local community component is a limited source of data for this portion of the LIREC model. It was not possible to interview literacy action team members in this study. Ideally, such interviews could be included in future research on the LIREC community component.



Appendix A. LIREC Logic Model

Literacy Innovation in Rural Education through Collaboration (LIREC)



Appendix B. Methodology

The mixed-methods evaluation built on the grant’s theory of change and logic model, drawing on both quantitative and qualitative data to address the research questions:

- The quantitative data collection in the spring of each school year included teacher surveys, student surveys, and administration of a student literacy assessment, conducted for a subsample of second-grade students.
- The qualitative data collection included both case studies and cross-site interviews with local community literacy liaisons.

Teacher survey. The findings were based on teachers’ responses to the annual hard-copy surveys in which the LIREC and non-LIREC teachers indicated their practices for fall (retrospective) and for spring in each of the two years (2015 and 2016). There were 425 teachers who responded to the survey in spring 2015, and 325 of those teachers continued to be listed on school rosters in spring 2016. The final teacher sample consisted of 259 pre-K–4 teachers (137 LIREC teachers, 122 non-LIREC teachers) who participated in the survey administration in both years. Surveys were administered to all teachers who provided instruction to students (e.g., main classroom teachers and subject-area teachers, as well as resource teachers, reading specialists, Title 1 teachers, and information specialists/librarians). The teacher response rate to the surveys was 80 percent: 259 out of 325 possible for the longitudinal sample.

Student survey: Motivation-to-read scale and items on literacy activities. In spring 2015, students in grades K–3, and in spring 2016 students in grades K–4, completed surveys that included a motivation-to-read scale and four items addressing literacy activities outside of school. Students completed one of two versions of the survey based on their age (see Year 1 report). Students in kindergarten and first grade in spring 2015 completed the Me and My Reading Profile test (MMRP)¹ and four items on literacy activities. Students in the second and third grades in spring 2015 completed the Motivation to Read Profile–Revised test (MRP-R)² and four literacy activity items.

Analyses included only those students with data available in both spring 2015 and 2016, who had demographic data available, and whose parents or guardians provided permission to participate ($n=1,729$; 1,348 in 16 LIREC schools and 381 in four non-LIREC comparison schools). These represented 56 percent of the 3,090 students (including 91 percent of LIREC students and 29 percent of non-LIREC students³) rostered in the schools in both spring 2015 and spring 2016. English learner students were excluded due to

¹ Marinak, B.A., Malloy, J.B., Gambrell, L.B., & Mazzone, S.A. (2015). Me and my reading profile. *The Reading Teacher*, 69(1), 51–62. doi:10.1002/trtr.1362.

² Malloy, J.A., Marinak, B.A., Gambrell, L.B., & Mazzone, S.A. (2013). Assessing motivation to read. *The Reading Teacher*, 67(4), 273–282. doi:10.1002/trtr.1215.

³ One district that included several non-LIREC schools did not provide student demographic data.



the low number of such students in the non-LIREC group. All comparisons were adjusted statistically to take into account various student demographic variables, including free and reduced-price lunch status.

Student literacy skills assessment. The electronic Word Recognition in Isolation (e-WRI) task was administered to a subsample of second-grade students in spring 2015 and again in spring 2016 to the same students when they were in third grade. The e-WRI is a subtest of the Phonological Awareness and Literacy Screening (PALS) assessment and has been shown to be related to performance on literacy achievement assessments.⁴ Briefly, the e-WRI tests students' recognition for words of various difficulty. Each student receives a score indicating their vocabulary grade level (e.g., whether they recognized words on a second-grade level or third-grade level (see the Year 1 report for details.) There were 137 students (98 LIREC and 39 non-LIREC students) with e-WRI scores in both spring 2015 and spring 2016 and with demographic data for use in the analyses. These represented 55 percent of the total 247 students (including 82 percent of LIREC and 30 percent of non-LIREC students⁵) with assessment data for both years.

Case studies. The case studies in the spring of each year of the study examined LIREC capacity-building (four sites in Year 2) and included interviews with LIREC project coordinators, principals, instructional leadership team members, instructional staff, and the local LIREC community literacy liaison

for the school site. Interviews offered insights into the functioning of the LIREC model at each site, including the professional development and teacher activities in the school, resources received through LIREC, the role of the local community liaison, and the community action team efforts. The interviews provided information into the set of LIREC activities in the school overall, but focused inquiry on LIREC activities in pre-K–grade 4. The discussion included designation of new leadership teams focused on literacy, scheduled time for collaboration, administrators' and teachers' perspectives on the LIREC grant efforts and their perspectives on changes observed in the school and in literacy instruction. The school staff interviews and local literacy liaison interview for each site also addressed any collaborative school-community relationships focused on literacy efforts, including new or strengthened relationships.

Community literacy liaison Interviews.

Interviews were conducted with community literacy liaisons in the spring of Year 2 only and provided additional cross-site information to address the community capacity-building component. In Year 2, there were 14 community literacy liaisons working with 17 schools in the study, 11 of whom participated in individual interviews. All but two liaisons were affiliated with the school or district; either as current employees (7) or retirees (2). Interviews were informative about progress and membership of the local community literacy action team activities, the status of a formal Community Plan, community awareness about literacy, and access to literacy resources within the local community.

⁴ Invernizzi, M. (2014) *PALS-plus: Phonological Awareness Literacy Screening: Administration and scoring guide*. Charlottesville, VA: University of Virginia, Curry School of Education.

⁵ One district that included several non-LIREC schools did not provide student demographic data.



Appendix C. Factor Analyses Based on Teacher Survey Item Responses

This appendix summarizes the confirmatory factor analysis approach used to construct scaling of the key LIREC constructs represented in the LIREC teacher survey.

Overview of Scale and Scaling

Multiple items in the teacher survey were used to address the key LIREC implementation components (effective literacy instruction, collaboration activities among teachers, shared vision for literacy instruction). Measuring complex constructs by examining multiple observable indicators, as the LIREC teacher survey did, is generally referred to as “scaling,” and factor analysis is one of the most frequently used approaches (Shultz and Whitney, 2005).¹ The analyses yielded three scales.

Effective instructional practice. This scale represents effective literacy practices highlighted by the LIREC project and supported in the LIREC professional development. The questions examined the frequency of specific instructional practices teachers used in instruction—e.g., students have time to read independently with books they have chosen themselves, or students have an extended period of time to write original texts.

Collaboration activity. This scale consists of two components. One component is collaboration among teachers in discussing and planning literacy instructional practices. The second component addresses collaboration within classroom instructional practices, that is, it refers to the teachers’ structuring of literacy activities that actively engage groups of students in working and discussing collaboratively.

Shared vision for literacy instruction. This scale assesses the teacher’s perspective regarding whether there is a shared vision for literacy instruction. The questions address, for example, the extent that there is a shared understanding of what good instruction in literacy looks like and teachers’ knowledge of literacy instruction in other grades.

Exhibit C-1 presents the items identified for the scales that were confirmed through the factor analysis.

¹ Shultz, K.S., & Whitney, D.J. (2005). *Measurement theory in action: Case studies and exercise*. New York: Sage Publications, Inc.



Exhibit C-1. Item-to-scale mapping for factor models

Scale	Subscale	Items
Effective literacy instructional practice	None	<p>Q9: You or another adult in the classroom read (reads) aloud to the students.</p> <p>Q11: Students have time to read independently with books they have chosen themselves.</p> <p>Q12: Students have extended period of time (at least 15 minutes) to write original texts.</p> <p>Q13: Students write in response to a specific text.</p> <p>Q17: Students learn strategies for building academic vocabulary.</p>
Collaboration activity	Collaboration in instruction	<p>Q14: Teacher and students collaborate in composing a text.</p> <p>Q15: There is student-driven discussion, that is, discussion in which students are doing all or most of the speaking.</p> <p>Q16: Students work in small groups on targeted literacy objectives.</p>
	Collaboration among teachers	<p>Q21: How often do you work with other teachers to jointly develop literacy lesson plans and/or structure literacy assessment activities for your students?</p> <p>Q22: How often do you work with other teachers to discuss student learning objectives and instructional approaches for literacy development across grade levels and/or subject areas?</p>
Shared vision	None	<p>Q24: In our school, teacher expertise is used in making decisions about literacy instruction and curriculum.</p> <p>Q25: In our school, the principal provides sufficient supports for teachers to collaborate as an important part of their professional practice.</p> <p>Q26: I know the content and type of literacy instruction my students receive in their prior and subsequent grades in this school.</p> <p>Q27: In our school, teachers and leadership share the same understanding of what good instruction in literacy looks like.</p>



