Rapid Feedback MERL Lecture Pour Tous
Findings Memo | Research Question 3 Phase 1: COACHING

Executive Summary

Background

Lecture Pour Tous (LPT), a USAID-funded technical assistance program is an ambitious, five-year initiative to teach reading in national languages in Grades 1 to 3 Senegal. LPT supplies training and support to inspectors, school directors, and teachers in their efforts to improve student literacy in national, including through the provision of coaching to teachers and incorporation of technology to reinforce training concepts and improve coaching.

As part of LPT's commitment to using evidence to drive improvement, it has partnered with Mathematica Policy Research and Results for Development to participate in Rapid Feedback Monitoring, Evaluation, Research, and Learning (Rapid Feedback MERL). Rapid Feedback MERL leverages proven evaluation methods in rapid cycles to engage in course correction earlier than is typical in a project cycle. Employing a mix of qualitative and quantitative methods, the MERL team has, during a first phase of work, sought to answer the question: *What is the most effective approach to coaching teachers?* More specifically, Phase I seeks to assess identify barriers and facilitators for director coaching of teachers and peer-to-peer teacher coaching in Senegal. This research will then inform the selection of alternative coaching models to test during Phase II.

This memo seeks to (1) summarize the literature on teacher coaching and the use of technology in coaching (2) synthesize findings from the RF MERL coaching engagement and based upon these findings (3) identify potential options for adapting LPT's current coaching model in order to improve its effectiveness.

Key Takeaways from Phase I

A review of quantitative project data and interviews with teachers, directors, inspectors, Ministry of Education staff, LPT, and USAID finds that there are several positive findings related to LPT's coaching approach. These include the following:

- Inspectors understand the responsibilities and objectives associated with the coaching role. They also understand key differences between the coaching and supervisor roles.
- Directors regularly coach teachers and their supervisory role has not functioned as a barrier to providing effective coaching.
- Peer-to-peer support and learning is viewed as valuable for both teachers and directors and is facilitated by the ICT tools that LPT has begun to roll out, such as the *Flotte*.
- Internal and External CAPs and CODEC, when they happen, are an additional source of regular reinforcement of trainings and are valuable for teachers and directors. They are

also a valuable source of information for inspectors for communicating what is happening in schools and where teachers and directors need additional support related to LPT.

● Teachers appreciate and benefit from the coaching they do receive. Teachers reported that coaching helped clarify what they did not understand in training and resulted in an improved relationship with directors and that both director coaching and peer-to-peer learning provided much-needed support for teachers that do not fluently speak the language of instruction.

At the same time, our findings also show that there are some challenges to implementation of LPT's coaching mode, including the following:

• The cascading training of trainers model for coaching training requires the expertise and intensive participation of inspectors, and struggles to function effectively if they are not available.

• The hierarchical structure in Senegal's education system impacts both the way that inspectors perceive their role and directors' role within LPT (they don't always agree with LPT-defined coaching roles) and the way that teachers perceive coaching from inspectors (some teachers reported feeling stressed by inspector visits).

• This lack of inspector availability and buy-in mean that director-teachers and director-coaches miss out on opportunities to improve their effectiveness.

• Many teachers are receiving coaching, but directors, particularly those who are teachers themselves and those in schools with multiple LPT teachers, struggle to find time to coach teachers.

• The full potential of the coaching model is hampered by a lack of information on multiple fronts. Inspectors have few opportunities to gather information about challenges and issues in schools, and even fewer opportunities to use that information to better support teachers/directors. LPT, in turn, has limited information on if, when, and where coaching is happening, the quality of coaching that is being delivered, and which elements of the curriculum challenge teachers.

• The Internal and External CAPs and CODEC, though useful for some directors and teachers, are not an optimal source of continued professional development for LPT teachers and directors because of inconsistent implementation across districts, challenges some teachers face with attending the External CAPs, and lack of focus on the LPT curriculum.

Opportunities for action
Based on the findings above, we propose the following principles/opportunities to guide the next phase of work.

• <u>Continue with plans to expand the role of ICT in LPT's coaching model</u>: It is evident that ICT has the potential to improve LPT coaching in a number of ways. Teachers, who have largely embraced coaching, have already leveraged ICT for peer-to-peer support, and

continue to seek both more coaching and new modalities for using technology to improve coaching.

- Take steps to improve the frequency and quality of data to which both inspectors and LPT have access, and ensure appropriate use of those data: As part of Phase II, Rapid Feedback MERL and LPT could test one or more strategies to improve the quality and application of coaching data, such as the introduction of training modules for inspectors to analyze coaching data or a variation of the user interface for directors to input their coaching data.

- Consider alternative ways to reinforce the support that directors receive to ensure that they are providing high quality coaching to teachers in light of inspectors' limited ability to visit schools: Such support could take the form of increased use of "inspection groupée" or provision of coaching support at a central level, either in person or through video, among other options.

- Support coaches that are incapable of providing the required amount of coaching sessions as currently designed and consider alternative methods of delivering the desired amount of coaching to teachers: Ideas for providing such support include leveraging inspectors to fill gaps in coaching sessions or increasing the use External CAP for coaching by directors in schools where directors have multiple teachers to coach.

As a next step, MERL would recommend a virtual learning check with LPT and USAID to discuss the findings above as well as potential options for alternative coaching models to test during the 2019/2020 school year.

I.   Introduction

Background

USAID/Lecture Pour Tous

Lecture Pour Tous (LPT), a USAID-funded technical assistance program in Senegal, which will run from October 2016 to July 2021, is teaching reading in national languages (Wolof, Pulaar, and Seereer) in Grades 1 to 3 to increase literacy and facilitate learning in French within the context of national bilingual reforms led by the Ministere de l'Education Nationale (MEN). This represents a shift from the traditional early grade reading approach in Senegal, in which children learned to read only in French.

Rapid Feedback MERL Engagement with USAID/Lecture Pour Tous

Rapid Feedback Monitoring, Evaluation, Research, and Learning (Rapid Feedback MERL) applies proven evaluation methods to test the effectiveness of specific components of an activity. These evaluation methods are employed in rapid cycles to allow for timely feedback and course adjustment earlier than is typically done. Since December 2017, Rapid Feedback MERL has worked with USAID Senegal and Chemonics International (Chemonics) to apply the Rapid Feedback MERL approach to specific LPT activities.

Purpose of the memo

LPT is training and supporting inspectors, school directors, and teachers in their tasks related to improving student literacy in national languages and student learning in French in several ways, including by (1) providing coaching to teachers using MEN personnel and peer networks and (2) incorporating technology to reinforce training concepts and improve coaching.

Rapid Feedback MERL is conducting a two-phased study to answer the research question: *What is the most effective approach to coaching teachers?*. Phase I combines quantitative and qualitative methods to identify barriers and facilitators for inspector coaching of directors and teachers, director coaching of teachers and peer-to-peer teacher coaching in LPT schools. Phase II, to be conducted during the 2019/2020 school year, will include an RCT to test different coaching models. The coaching models will be informed by the information gathered during Phase I. This memo presents findings from a literature review of coaching models, takeaways from Phase I of the coaching study, and key considerations for LPT as it develops alternative coaching models to test. Findings from the study, summarized in this memo, are intended to be used to inform the choice of models to be tested during Phase II.

Organization of the memo

In Section II, we describe LPT's training and professional development plan, outline the research questions for this study, and provide a summary of the evaluation design and data collection. In Section III we summarize the literature on various coaching models and in Section IV we present the findings derived from Phase I. In Section V, we summarize key messages and present opportunities for LPT to consider in developing alternative coaching models to test. We conclude with a discussion of next steps for the Rapid Feedback MERL engagement.

II.   Overview of training model and evaluation design

Theory of change

In Figure II.1 we illustrate the theory of change around LPT's Training Plan. According to this theory of change, LPT's provision of high-quality training and support to teachers, inspectors and directors should improve both teachers' skills in evidence-based early grade reading instruction and coaching and supervision of early grade reading instruction. As a result, teachers will use the new materials and techniques in their instruction of reading in national languages in the early grades; directors will support teachers in this task, through observation of classroom practices and provision of feedback on teaching techniques; and directors and teachers will interact with the wider network of MEN staff in-person through internal and external cluster meetings (called cellules d'animation pedagogiques or CAP) and director cluster meetings (called collectif des directeurs d'école or CODEC) meetings, and remotely through the use of ICT tools. These interactions will reinforce the new techniques taught during LPT's bi-annual training sessions.
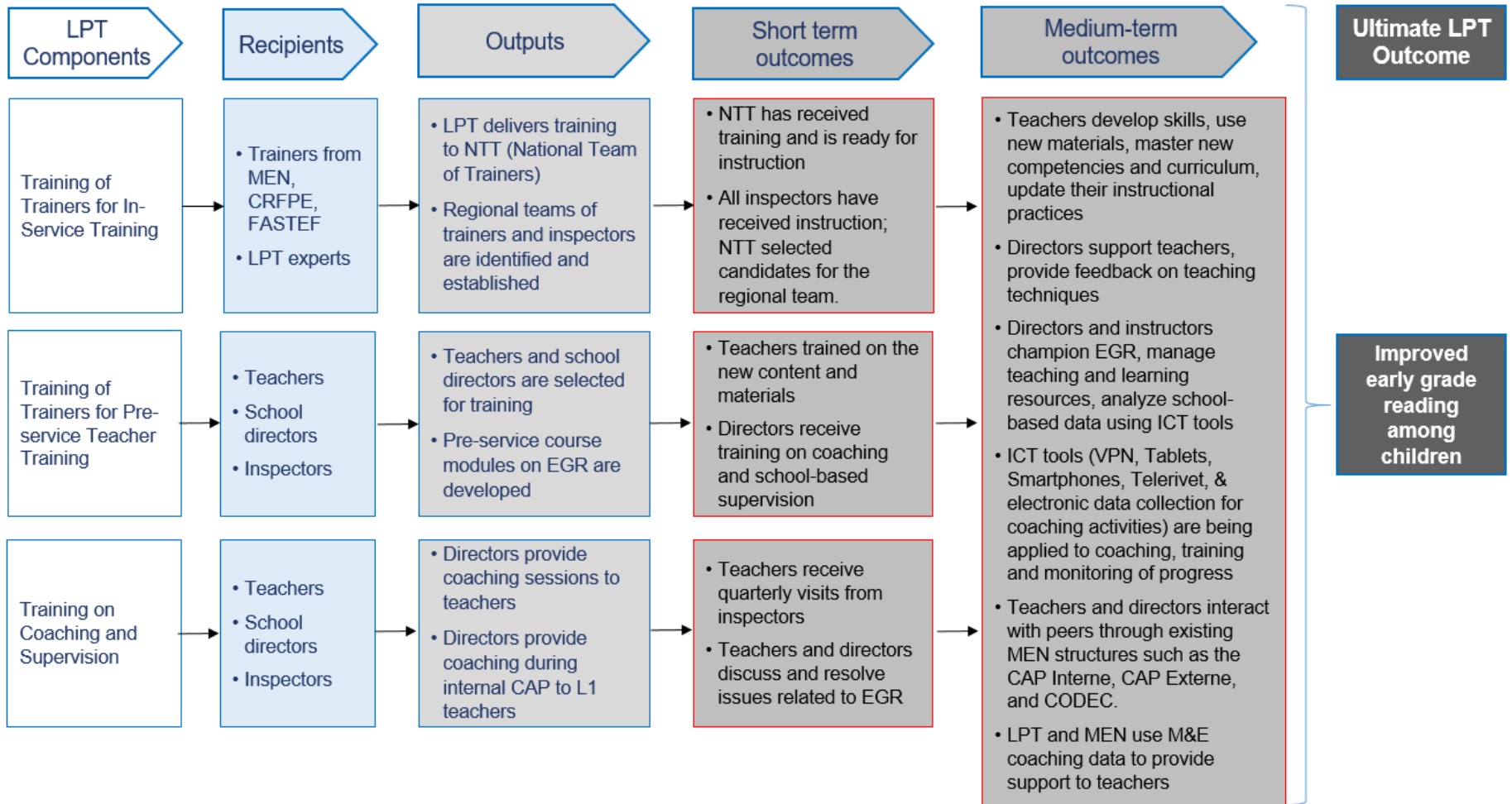
Figure II.1. LPT Training Plan - Theory of Change

LPT Components	Recipients	Outputs	Short term outcomes	Medium-term outcomes	Ultimate LPT Outcome
Training of Trainers for In-Service Training	• Trainers from MEN, CRFPE, FASTEF • LPT experts	• LPT delivers training to NTT (National Team of Trainers) • Regional teams of trainers and inspectors are identified and established	• NTT has received training and is ready for instruction • All inspectors have received instruction; NTT selected candidates for the regional team.	• Teachers develop skills, use new materials, master new competencies and curriculum, update their instructional practices • Directors support teachers, provide feedback on teaching techniques • Directors and instructors champion EGR, manage teaching and learning resources, analyze school-based data using ICT tools • ICT tools (VPN, Tablets, Smartphones, Telerivet, & electronic data collection for coaching activities) are being applied to coaching, training and monitoring of progress • Teachers and directors interact with peers through existing MEN structures such as the CAP Interne, CAP Externe, and CODEC. • LPT and MEN use M&E coaching data to provide support to teachers	Improved early grade reading among children
Training of Trainers for Pre-service Teacher Training	• Teachers • School directors • Inspectors	• Teachers and school directors are selected for training • Pre-service course modules on EGR are developed	• Teachers trained on the new content and materials • Directors receive training on coaching and school-based supervision		
Training on Coaching and Supervision	• Teachers • School directors • Inspectors	• Directors provide coaching sessions to teachers • Directors provide coaching during internal CAP to L1 teachers	• Teachers receive quarterly visits from inspectors • Teachers and directors discuss and resolve issues related to EGR		

Coaching is a critical component of LPT's training model and is meant to reinforce the 10 days of training that teachers receive each year. Coaching is designed to provide teachers with ongoing support throughout the school year in order to improve teacher application of LPT's instructional strategies and usage of instructional materials (Lecture Pour Tous 2019a). LPT has designed a multi-pronged approach to coaching that works within the existing MEN structures. Most components have been implemented already, with a few remaining to be rolled out in SY 2019-2020.

Thus far, LPT has implemented the bulk of the coaching interventions. Within the school, directors provide coaching to the CI (Grade 1) and CP (Grade 2) teachers implementing the EGR curriculum. The key component of this model is two classroom observation sessions combined with coaching feedback per month. Inspectors are meant to provide additional support to teachers and directors through once-quarterly visits to each school. Inspectors support directors in the coaching they provide to teachers, and inspectors provide direct coaching to teachers, particularly directors that teach CI or CP[1]. For both directors and inspectors, coaching is a new role that requires different behaviors and interactions than their typical supervisory role. Coaches, rather than give directions and enforce them, are tasked with explaining and demonstrating best practices for teachers and providing them with ongoing support to implement those techniques (Lecture Pour Tous 2018).

The LPT model also emphasizes the potential for teachers and directors to benefit from peer-to-peer exchanges and from in-person interaction with directors and inspectors at internal and external CAPs. These exchanges are implemented at regular intervals during the school year within the existing MEN structure, and remotely through the VPN network established by LPT to allow free calling and texting within the LPT network of school staff. Finally, LPT sends periodic SMS messages to teachers, directors, and inspectors with reminders and practical information on the LPT curriculum.

The training of coaches follows the same cascading model used for teacher training. A National Team of Trainers trains the Regional Team of Trainers (which are MEN staff such as inspectors and directors that have been identified to have the appropriate skills to be a trainer) on coaching and supervision, and the Regional Team of Trainers then provides a three-day training to directors. This training occurs in October/November as a supplement to the regular 7-day teacher and director training. The training focuses on preparing directors to implement the following key coaching tasks:
- "Modeling effective teaching practices
- Mastering techniques of observation
- Giving constructive evidence-based feedback
- Monitoring teachers' progress so that teachers and observers have a clear vision of competences acquired and to be acquired" (Chemonics 2017a).

In addition, directors participate in a 3-day refresher training on coaching in February of the same school year.

There are a number of coaching tools that support directors and inspectors in their work and that allow for tracking of coaching activities and teacher performance:

- *Grille d'observation:* This form allows inspectors to evaluate and track teacher performance, based on classroom observations during their school visits.
- *Outil de coaching:* To be used by directors and inspectors the purpose of this form is to document observations and results from coaching sessions with teachers.
- *Grille d'observation du coaching:* Intended for use by inspectors and LPT staff, this tool documents findings from observations of director/teacher coaching sessions.
- *Rapid student formative reading assessments and results compilation form:* Directors and inspectors are meant to conduct short reading assessment with five children prior to each coaching session with a given LPT CI or CP teacher. The purpose of the assessments is to help directors and inspectors better understand how to support teachers in improving their teaching quality and in helping students that are lagging behind.

LPT also plans to be rolled out additional supports during the 2019/2020 school year, including two additional ICT tools to strengthen coaching activities:

1. The *Telerivet system* will expand upon the SMS messaging system to add capabilities. Users will be able to respond to messages sent, and LPT will be able to administer surveys and quizzes. The system will be available to teachers, directors, and inspectors through the VPN network (the Flotte).
2. In a select number of schools, LPT will pilot a coaching + ICT model in which directors and inspectors will receive tablets preloaded with a library of pedagogical materials and video and audio recordings that model good teaching and coaching practices. Users will also be able to submit data from the coaching tools electronically using the tablet so that LPT and MEN can more easily analyze coaching at the national level.

Research questions

In this rapid feedback engagement, we plan to answer the broad research question (RQ3) described in Section I: *What is the most effective approach to coaching teachers?* Based on the theory of change in Figure III.1, Rapid Feedback MERL and LPT have identified three sub-questions for a rapid feedback engagement:

A. What are the barriers and facilitators to teachers receiving the training and coaching they need (from directors and through their peers)?
B. What coaching model is the most effective in mitigating those barriers and improving teacher practices and student outcomes?
C. What is the cost effectiveness of the different coaching models tested?

Evaluation design

The research questions outlined above will be answered over the course of two distinct phases.

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[1] It was originally intended that additional resource personnel hired by LPT to supplement Inspectors would conduct some of this work. Our understanding, however, is that this has not been implemented in practice.

Phase I is comprised of formative research that combines qualitative methods and a descriptive quantitative analysis of inspector, director, and teacher behaviors and attitudes during the first two years of LPT implementation. The purpose of Phase I is to assess the existence of barriers and facilitators for director coaching of teachers and peer-to-peer teacher coaching in Senegal and to inform the selection of alternative coaching models to test during Phase II.

Phase II will include a RCT that will test two different coaching models. The overarching goal of the RCT will be to compare the impact of the two coaching models on teacher and student outcomes, and it will be complemented with a qualitative study to understand the *how* and *why* of the estimated findings. Phase II will be implemented during the 2019/2020 school year. The timeline presented in Figure II.2 shows the timing of the RQ3 data collection efforts and Learning Check in relation to the rollout of the alternative coaching models.

Figure II.2. RQ3 Engagement Timeline
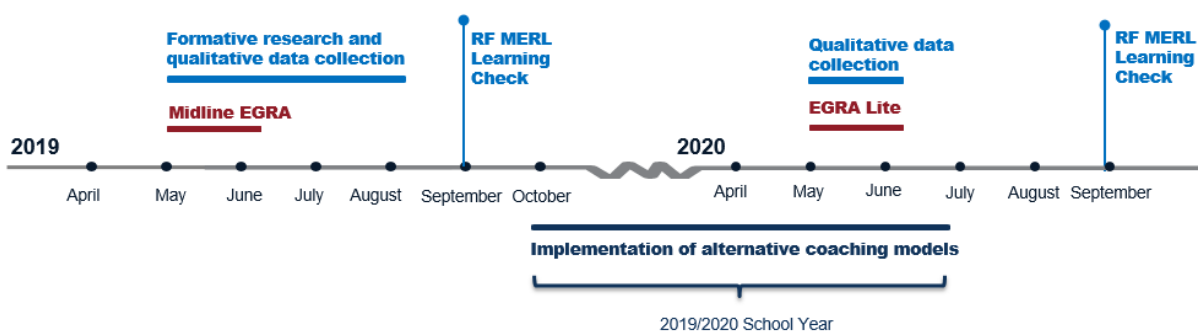
Data collection summary
Phase I leverages quantitative data collected by LPT's partners and qualitative data collected by the Rapid Feedback MERL team. Table II.1 summarizes the different data sources analyzed in this report.

Table II.1. Phase 1 Data Sources

Data type	Data source	Data collector	Timing
Quantitative	EGRA SSME with directors and teachers	EdIntersect (LPT subcontractor)	May/June 2017 May/June 2018 May/June 2019
Quantitative	Teacher KAP and classroom observations	Cambridge Education (LPT subcontractor)	April 2019
Qualitative	Interviews with teachers, directors, and inspectors	APAPS (Rapid Feedback MERL subcontractor)	May/June 2019
Qualitative	Interviews with project stakeholders at LPT, USAID, and MEN	Rapid Feedback MERL	July/August 2019

Quantitative data. LPT and its partner EdIntersect collected child, teacher, and director data in schools in 2017, 2018, and 2019. Each round of data collection used an early grade reading assessment (EGRA) administered to children along with a short child context survey, as well as Snapshot of School Management and Effectiveness (SSME) questionnaires administered to

teachers and directors. We use the existing quantitative data from these data collection efforts (which we refer to as "EGRA data collection") to present descriptive statistics on the status of coaching activities and inspector, director, and teacher behavior in LPT schools.

LPT and its partner Cambridge Education also conducted a separate data collection in schools in 2019. Comprised of a smaller sample of schools than the EGRA data collection but a much longer teacher questionnaire, this data collection focused on measuring teachers' knowledge, attitudes, and practices related to the LPT curriculum and included classroom observations of national language and French language reading instruction. We use these data (which we will call the "Teacher KAP data collection") to present descriptive statistics on teachers' current level of knowledge of and comfort with the LPT curriculum. Some of the measures overlap with the teacher survey data from the EGRA data collection, but the majority are unique to the Teacher KAP. A full description of both the EGRA and the Teacher KAP samples is provided in Appendix A.

Qualitative data. Rapid Feedback MERL hired the Senegalese firm APAPS to conduct qualitative data collection with project beneficiaries in each of the six Outcome 1 regions. APAPS collected data on coaching training and implementation and peer-to-peer interactions from teachers, directors, and inspectors in 18 communities/schools, spread across region and LPT language of instruction. The sample sizes, by region and language of LPT instruction, are presented in Appendix Table A.1.

In addition, the Rapid Feedback MERL team conducted interviews with a number of project stakeholders at LPT, USAID, and the MEN. The full list of interviewees is presented in Appendix A, along with additional details on data collection. Given the small sample sizes, findings from the qualitative data should be interpreted as suggestive evidence of what is happening in some schools, not what is happening in the full sample of LPT schools.

III. Literature review

A. Literature on Coaching of Teachers

LPT's training plan rests on strong evidence that shows that coaching of teachers can play an important role in their professional development and can be effective at improving the quality of instruction and student learning outcomes (Ganimjan and Murnane, 2016; Kraft et al., 2018; JBS International, 2014; Moore et al. 2017). However, the literature does not give insight into optimal, context-specific coaching approaches, particularly at scale.

While there is agreement on the types of inputs that lead to high quality coaching, there is still uncertainty about the ideal frequency of coaching. High quality coaching is often practical, content-focused, structured, collaborative, non-judgmental, and accountable (Kraft et al. 2018; Pflepson, 2019). Successful coaching plans take into account the skills of coaches, teacher needs, support for coaches, and sustainability (Pflepson, 2019). High quality coaching can be directive and/or responsive, and can be provided individually or in groups, though a combination of the two is thought to be the most effective (Bean, 2014; JBS International, 2014, Plfepson, 2019). The literature on the ideal coaching dosage, however, is inconclusive. Moore et al (2017) reviewed 14 early grade reading projects and found that the dosage of teacher coaching, training, and support varied significantly across projects. They found that context, intervention type and dosage were all important, but the most successful programs had strong elements of teacher coaching and direct pedagogical support. Although research on the ideal frequency of coaching is unclear, there is agreement that one dose of an intervention is typically insufficient to change teaching practice (Joyce & Showers, 1980; Winton & McCollum, 2008).

In addition to having a diverse set of technical and interpersonal skills, **the literature shows that coaches need to have the time to conduct high quality coaching visits.** Coaches need to have a range of technical and interpersonal skills to be effective. Literature shows that strong coaches know the subject on which they are coaching and have worked with the same grade level, have a clear understanding of the coaching role and of adult learning, have strong interpersonal skills, and are able to develop a trusting relationship with teachers (Pflepson, 2019). Effective coaches have a clear vision about the goals of the coaching program and have strong content and pedagogical competencies. Effective coaches have a growth mindset about what teachers are able to do, and have a sense of responsibility for student learning (New Teacher Center, 2019; Pflepson, 2019). Importantly, coaches need to have the time to conduct high quality coaching visits. Piper and Zuilkowski (2015) show that reducing the coach (called a Technical Advisory Center tutor) to teacher ratio from 15:1 to 10:1 for dedicated coaches increased the overall effectiveness of an early grade reading program in Kenya.

Coaches themselves need support, time, and a manageable workload to be effective. A well-developed coaching program is marked by clearly-defined expectations, clarity regarding the coach's role, and the incorporation of context-appropriate elements. In addition, sufficient training and practice to develop coaching skills, as well as continued support and resources in their role as a coach are needed. Coaches can benefit from their own community of practice as

well as one-on-one observation and coaching on their coaching (New Teacher Center, 2019). Continued monitoring and evaluation of their coaching allows for provision of feedback as well as quality assurance (Pflepson, 2019). They also need a workload that is manageable so that they can spend enough time with each teacher (New Teacher Center, 2019).

It takes time for a new coaching program to become effective, as both teachers and coaches need time to master new practices. Multiple and varied opportunities to learn and practice the new techniques are needed (Kennedy, 2016). Pflepson (2019) notes the importance of taking the long view in starting a new coaching program. Systemic changes are needed when introducing a coaching program, including understanding available resources and aligning all around the new approach, and can take 3 to 5 years (New Teacher Center, 2019). Implementation data should be used to ensure coaching quality. Data often show that coaches are not spending as much time as needed on coaching, since they have other tasks within the school. Showing coaches, Ministry staff, and schools these data can help them to better allocate time (New Teacher Center, 2019). Regular communication with key stakeholders is important so that decision-makers (at the district or regional levels) can stay informed and actively play a role (New Teacher Center, 2019).

There is a lack of evidence on the costs and cost-effectiveness of different coaching approaches. Coaching programs can be resource-intensive due to personnel costs. For instance, Knight (2012) found per teacher costs of a coaching program in a few schools ranged from $3,300 to approximately $5,200. More recently, alternative models incorporating ICT are being tested to see if costs might be reduced. However, many studies focus on small-scale projects, and bringing projects to scale sometimes requires modifications that could result in less effective programs. For instance, Cabell et al (2011) found that when modifications were made to facilitate bringing a literacy program to scale – including reducing coaching dosage, using less skilled coaches, and reducing the quality of the feedback process – the program at scale was ineffective at changing children's language skills (where the pilot had been effective).

B. Literature on coaching approaches used in LPT

LPT has developed a coaching approach that builds upon the evidence base and works within existing Ministry of Education structures to provide individualized and group coaching to teachers, reinforce existing professional learning communities, and provide support and scaffolding to coaches (Chemonics, 2017a). In this sub-section we review the literature on the specific coaching approaches used by LPT.

While it is common for inspectors/regional supervisors to serve as coaches, they are not always best positioned to be effective coaches due to their role as evaluator and heavy workload. It is common for programs to have government officials (e.g., district supervisors or central ministry staff through cascade training) conduct training, while other programs hire dedicated coaches. Popova et al. (2016) reviewed teacher training programs in low- and middle- income countries and found that the identity of coaches and trainers is important. The literature suggests that the effectiveness of coaching may be weaker when the coach is also an evaluator, since the coaching

may not be construed as a learning experience (Kraft and Gilmore, 2016; Kraft et al. 2018, JBS International, 2014). In addition, Popova et al. (2016) found that programs using non-education professionals (such as government officials) as trainers are not as successful as those that use teachers to conduct training.

The workload of the coach matters as well. A program in Kenya experimented with the number of schools assigned to each government coach (10 vs. 15), which showed better outcomes for the smaller school-to-coach ratio (Piper and Zuilkowski, 2015). Another program had the coach-to-school ratio increase from 4 to 12 between pilot and scale-up in Liberia, and the results declined correspondingly (Gove, Korda Poole, & Piper, 2017). Other early grade reading projects in developing countries are currently testing the effectiveness of using government personnel (with education experience) as coaches, including the Reading and Access Research Activity in Northern Nigeria (Pflepson, 2019).

School directors that serve as coaches also face similar challenges. The majority of the literature on school directors in a coaching role focuses on US school districts that have made director coaching part of the teacher evaluation system (Kraft et al. 2018). The literature suggests that building a trusting relationship with the coach who is also an evaluator can be challenging (Kraft et al. 2018; Kraft & Gilmour, 2016). Simply adding coaching responsibilities to administrators' existing responsibilities without sufficient training and support is unlikely to result in successful coaching. Early grade reading projects in developing countries are currently testing the effectiveness of directors as coaches, including Ghana Learning (Pflepson, 2019).

There is evidence to suggest peer-to-peer coaching can improve teaching practices and learning outcomes. Teachers can learn from each other, both one on one as well as in professional learning communities. Teachers with different strengths and weaknesses can be paired together and learn from each other (Papay et al., 2016). Professional learning communities have been found to have a positive effect on both teaching practice and student outcomes (Darling-Hammond et al. 2009). Sun et al. (2013) found that spillover effects of professional development can occur through collegial interactions, peer-to-peer teaching, and teacher learning circles.

C.   Incorporating technology in coaching.

The emerging literature has found mostly positive evidence on the potential positive role of ICT to support the provision of training and coaching to teachers. In the context of educational programs, it is worth noting that ICT can be applied in widely different manners, including virtual platforms to allow more interaction between teachers, peers and students (Bruns et al., 2017), support through mobile technology (Hoesein, 2015; Walsh et al., 2013), SMS messaging (Piper, Zuilkowski, & Mugenda, 2014; Jukes et al., 2017), online chats and consultations with peers (Pianta et al., 2008; Blitz, 2013), the use of video for coaching (JBS International, 2014), and e-readers for teachers and instructional coaches (Piper et al., 2016; Piper et al., 2017). Several of these methods are components in early grade literacy programs that have been found to be effective (see for instance, Jukes et al., 2017 and Piper et al. 2017).

While the use of mobile technology in supporting coaching in educational is yet unproven, it may be informative to draw on evidence from other sectors. The use of technology to improve health care provision is particularly relevant given that community health workers (like directors and inspectors) are geographically dispersed and typically have limited training opportunities. Indeed, mobile technology has been shown to be effective in supporting health service providers and improving the quality of care in developing countries (Borkum et al. 2015).

The cost of ICT-oriented interventions relative to those that rely only on in-person coaching or training is unclear. A recent paper concluded that ICT-focused coaching programs are no less effective than on-site coaching programs (Kotze et al. 2018), and so the specific cost of conducting each in the short and long term is quite important. Another recent paper (Cilliers et al. 2018) found that virtual coaching was more effective and more cost effective than in-person training in a new in-service training program. Overall there is a lack of rigorous evidence regarding the relative cost-effectiveness of ICT-based coaching compared to in person coaching.

IV. Findings from Phase I

1. Teachers' experiences with implementing the LPT curriculum

Finding 1: Most teachers have knowledge of LPT teaching instructions and are applying them in practice. However, there are still many teachers who have not yet mastered key teaching concepts and techniques.

Analysis of EGRA Midline data found that not all teachers demonstrate complete knowledge of key early grade reading instruction concepts. Although nearly 79 percent of teachers were able to correctly name all five components of reading instruction, only 55 percent could identify the three types of questions to evaluate reading comprehension and only 34 percent correctly identified the three techniques for ensuring equitable participation of students in the classroom (Table IV.1).

Table IV.1. Teacher knowledge of key LPT instructional practices (EGRA Midline data)

Outcome	Mean	SE
Percent of 5 components of reading instruction correctly identified by the teacher	78.6%	1.9%
Percent of 2 basic elements of reading correctly identified by the teacher	64.3%	2.5%
Teacher correctly identifies the standard way to measure students' reading fluency	73.4%	3.0%
Percent of 3 types of questions to evaluate reading comprehension correctly identified by the teacher	55.4%	2.4%
Percent of 3 techniques for equitable participation of students correctly identified by the teacher	34.4%	1.5%
Sample size (teachers): 498		

Source: 2019 EGRA SSME Teacher Survey
Notes: Means include school-level weights to account for differing probabilities of school selection across region and language group. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data.

Similarly, according to Midline Teacher KAP data, most teachers reported having "sufficient" or "complete" knowledge of the 22 key LPT instructional techniques (see Appendix B). However, the only concept that more than 50 percent of teachers reported having "complete knowledge" of was the "je fais, nous faisons, tu fais" approach (69 percent of teachers). The percentage of teachers who reported having "complete" knowledge of the other concepts ranged from 13 percent to 50 percent. The percentage of teachers who reported having "no knowledge" of the other techniques ranged from 0 to 6.9 percent. [2]

Teachers have a stronger understanding of certain LPT approaches to reading instructions than others. For example, analyses of the teacher KAP data show that 97 percent of teachers mostly or totally agree that teachers should model exercises before asking students to do them, showing

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[2] Please see Table B.1 in the Appendix for a full presentation of findings.

a large degree of alignment with LPT best practices. However, 43 percent of teachers still incorrectly think that it is important to start with complete words and phrases when teaching children to read. In the qualitative interviews, inspectors and MEN staff mentioned that teachers have difficulty with the key components of each EGR lesson (démarche). Some teachers also reported having trouble with the transfer from local language to French reading. In the Teacher KAP data, the measure "link between teaching and learning in a national language and in French" has one of the lowest percentages of teachers reporting having complete knowledge (26.4 percent).

These findings suggest that coaches may want to put additional emphasis on concepts where teachers' knowledge is less aligned with the LPT approach. The results for these and other selected measures of agreement are presented in Table IV.2.

**Table IV.2. Teacher agreement with key LPT concepts**

	Agree…			
	Not at all	A bit	Mostly	Completely
It's better to begin learning to read in French	40.3% (49.4%)	33.3% (47.5%)	15.3% (36.2%)	11.1% (31.7%)
It's important to teach student to read beginning with sentences and entire words	40.3% (49.4%)	16.7% (37.5%)	25% (43.6%)	18.1% (38.7%)
I have a good understanding of how children learn to read	-	4.2% (20.1%)	54.2% (50.2%)	41.7% (49.7%)
It's important to have periods of silent reading in class	9.7% (29.8%)	15.3% (36.2%)	19.4% (39.9%)	55.6% (50%)
It's important to teach student to read beginning with sounds and parts of words	8.3% (27.8%)	6.9% (25.6%)	13.9% (34.8%)	70.8% (45.8%)
It's important that students learn to write at the same time that they learn to read	2.8% (16.6%)	1.4% (11.8%)	11.1% (31.7%)	84.7% (36.2%)
The teacher should explain the directions for exercises before students do them	1.4% (11.8%)	1.4% (11.8%)	6.9% (25.6%)	90.3% (29.8%)
It's important to have students read aloud	-	-	2.8% (16.6%)	97.2% (16.6%)
Sample size (teachers): 72				

Source: 2019 Teacher KAP Survey
Notes: Statistics shown are unadjusted means. The table reports mean percentages for each variable, followed by standard deviations in parentheses. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data.

While most teachers report practicing key LPT techniques in the classroom on a regular basis, there are some teachers who report never or rarely implementing key techniques. Notably, 29 percent of teachers report never or rarely assigning students to class exercises at random, and 22 percent said they rarely or never communicate with parents of struggling children (Figure IV.1).

Figure IV.1. Frequency of key teacher practices
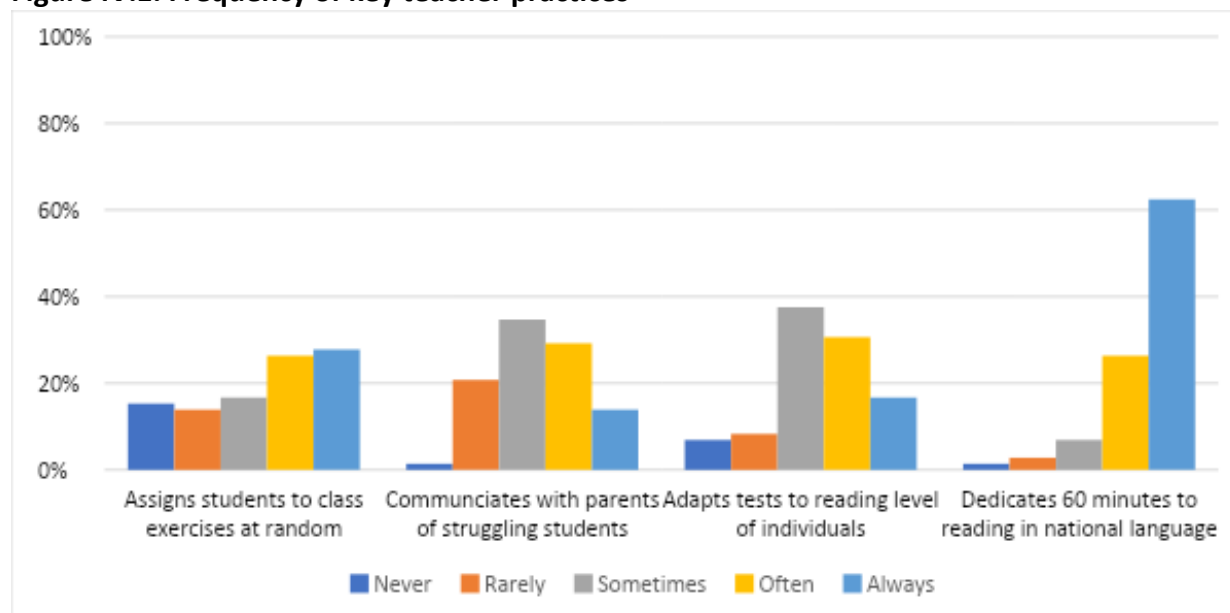
Sample size (teachers): 72
Source: 2019 Teacher KAP Survey
Notes: Statistics shown are unadjusted means. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data.

Finding 2. Language is a prominent reason why some teachers struggle to correctly implement the LPT curriculum. This may manifest as a lack of fluency in the national language of instruction, not having a formal education in that language, and/or of having children in class who do not speak the language.

One challenge to correct implementation of the LPT curriculum is that not all teachers are fluent in the national language of instruction in the school in which they teach. For nearly 25 percent of teachers in the midline EGRA sample, the national language of instruction in their school (Wolof, Pulaar, or Seereer) is different than their maternal language and the language they speak at home. The qualitative findings are consistent with this – 6 out of 15 interviewed teachers did not speak the language of instruction fluently, and 2 directors that teach CI or CP did not speak the language of instruction fluently. Differences between various national language dialects also affect the ability of the teacher to teach the language as specified in the LPT curriculum. This appears to be a major barrier, as interviewed inspectors also overwhelmingly mentioned language as a barrier in the classroom. In addition, some parents and CGEs reported being very concerned about the teachers' proficiency in the language of instruction. In one case, a teacher interviewed mentioned that students would correct them in class when they made language mistakes.

> *« Ils sont wolofs mais ils n'ont pas appris wolof c'est comme vous et moi nous n'avons pas appris nos langues nationales. »* - Director in Kaffrine

Another challenge is that fluency alone does not guarantee comfort teaching in the national language because teachers never received a formal education in their national language (rather they received it in French only).

These challenges are compounded by the fact that not all students speak the language of instruction at home. According to the EGRA Midline data, a large majority of students in Pulaar and Seereer schools speak the language of instruction at home (96 percent and 91 percent respectively). However, in Wolof schools, only 77 percent of students speak Wolof at home. Overall,

> "*Du point de vue du dialecte nous avons des problèmes, si le dialecte du maître est différent de celui utilisé dans le cadre du LPT il y a souvent des problèmes de compréhension.* » - Director in Fatick

nearly 60 percent of schools in the EGRA Midline sample had children in the EGRA sample whose maternal language is different than the school's language of instruction.

Finding 3. Despite the evidence of language challenges that emerged from the qualitative research, the EGRA survey revealed overall high levels of self-reported comfort operating in the language of instruction.

On a scale of 1 to 10, teachers report being comfortable (means between 7 and 9) with reading, writing, speaking, and teaching the language of instruction (Figure IV.2). These quantitative findings from a sample of almost 500 teachers suggest that the instances of language challenges observed in the qualitative data may reflect the opinion of only a minority of teachers or that the self-reported quantitative data reflect a higher level of comfort than is actually the case. In the EGRA data, teachers in Pulaar schools generally reported a lower level of comfort with the language of instruction. Teacher comfort with the language of instruction has increased modestly since the EGRA Light data collection in 2018. Interestingly, teachers report being more comfortable with *teaching* reading in the language of instruction than with actually reading in the language of instruction themselves. The qualitative interviews show that many teachers who are not fluent with the national language of instruction are proactive in trying to address language gaps through peer or director outreach before the lesson.

Figure IV.2. Teacher comfort with school's LPT language of instruction
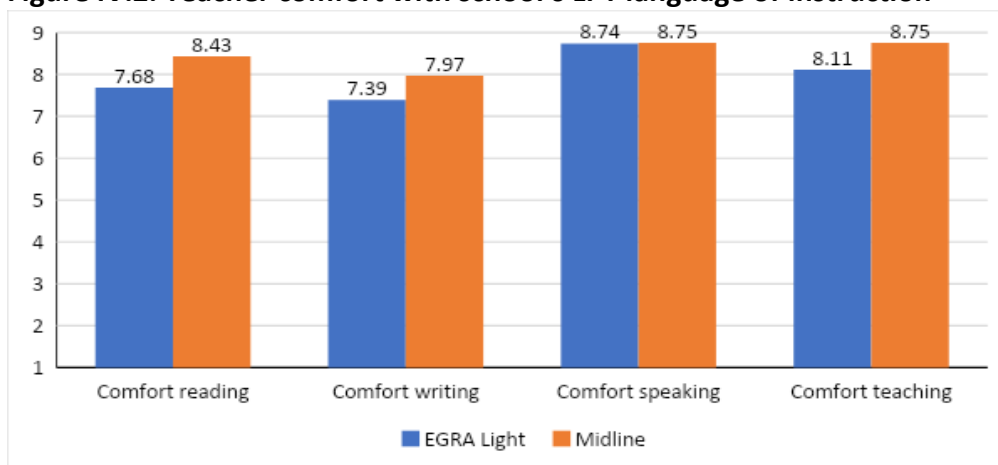
Sample size (teachers): 209 (EGRA Light): 490 (EGRA Midline)
Source: 2019 EGRA SSME Teacher Survey and 2018 EGRA Light SSME Teacher Survey
Notes: Means include school-level weights to account for differing probabilities of school selection across region and language group. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data. The response options ranged from 1, indicating no comfort, to 10, indicating a high level of comfort.

2. Coaching in the classroom: Inspector coaching

Inspectors are key in the coaching cascade model given that they train directors in coaching and provide coaching to both director that are coaches as well as those that are teachers of CI or CP and can also coach teachers directly. However, inspectors in Senegal were on strike for the majority of the 2018-2019 school year, which, among other barriers, likely limited the frequency of inspector coaching.

Finding 4: Most inspectors understand that their role as a coach should be one of support and exchange. However, there is a gap between inspectors understanding the coaching role as defined by LPT and ability and willingness to execute that role. Inspectors overwhelmingly prioritize teacher coaching over director coaching and some believe directors should not play a coaching role at all.

Qualitative data suggest that most inspectors recognize that their relationship with the director coach and/or teacher needs to be collaborative rather than authoritative, since the goal of coaching is to observe and provide constructive feedback. However, the data suggest that there is a gap between inspectors understanding the coaching role as defined by LPT and

> *"Ce coach [inspecteur] ne vient pas avec la casquette d'un inspecteur mais plutôt la casquette d'un encadreur, d'un formateur. »* - Inspector in Diourbel region

being able and willing to fulfill that role. In the qualitative interviews, inspectors overwhelmingly believed that coaching teachers was more important than coaching coaches, especially given inspectors' minimal availability to coach. The midline EGRA data also reflect this: when inspectors

did visit a school, they were 20 percentage points more likely to observe and support CI/CP teachers than to observe and support the director in their role as a coach (see Table IV.4 in next section).

Qualitative data also show that several inspectors believe that directors should not play a coaching role at all. This perception seems to be linked to the importance inspectors attribute to the hierarchical structure of the education system, which may have been exacerbated by the fact that directors took on additional coaching responsibilities during the inspector strike. Many inspectors interviewed were concerned about being replaced by directors who, according to them, did not have enough expertise to implement coaching. Conversations with LPT solidified this idea, with staff noting that many inspectors believe they are the only ones qualified to coach teachers, although they are not in schools as often as directors. In key informant interviews, a MEN staff member also stressed the importance of inspectors' presence in the coaching cascade model given their considerable amount of expertise and experience compared to directors. LPT staff also reflected on how the traditional role of the inspector is quite different from that of a coach, and that this big cultural shift has been difficult for many inspectors. LPT, USAID, and MEN staff acknowledged that it may take time and multiple trainings before inspectors are completely comfortable with the coaching role.

Finding 5: Disruption to coaching training caused by strikes does not appear to have affected inspector understanding of the LPT curriculum, knowledge of the coaching role, or structure of implemented coaching sessions.

Inspectors received the two required coaching training sessions in SY 2017-2018, but the strike affected coaching training during SY 2018-2019. Although nearly 100 inspectors received coaching training at two points in time in SY 2017-2018 (Chemonics 2018), the inspector strike in SY 2018-2019 meant that inspectors did not receive the full coaching training during the early part of the school year. 214 inspectors received the refresher training on coaching in March 2019 (Chemonics 2019b). Most inspectors noted that they were also in charge of conducting the training on coaching for directors after their own training. However, many inspectors were unavailable to conduct these trainings for directors during the inspector strike in SY 2018-2019.

Inspectors were able to speak in detail about the LPT curriculum during interviews, seemed confident in their knowledge and ability to conduct coaching despite the concern about the shift in roles and functions for inspector coaches, and reported following the suggested structure and themes of a coaching session as outlined in training. This includes four steps of pre-observation (calling in advance to schedule the session), rapid testing of students (for teacher coaching only), the preliminary in-person interview (communicating the goals of session), observation using the *grille d'observation*, and post-observation (feedback, recommendations, and modeling). As reported in the qualitative interviews, themes for coaching sessions with coaches included identifying weaknesses and correcting them through modeling, reviewing how to use the coaching tools, and making sure that the director respects the phases of a coaching session and builds a relationship with the teacher. For coaching sessions with teachers, inspector-reported

themes included modeling and constructive debriefing to determine areas for improvement and approaches for making such improvement.

Qualitative interviews with directors and teachers largely confirm these findings. According to inspectors, practices that led to effective inspector coaching included the following: solidifying a relationship of trust and comfort with directors and teachers instead of the traditional inspection role, communicating the objectives and goals of the coaching session before beginning, and modeling. MEN staff agreed that when inspectors created an open relationship with directors and teachers, it allowed both parties to speak more freely which improved the flow of communication. There was one case in which a teacher noted that an inspector had coached a teaching technique incorrectly. In addition, although inspectors were originally supposed to conduct rapid tests of students, many directors took over this task due to the inspector strike.

Finding 6: Inspector coaching within the LPT program is not occurring to the degree desired by LPT, especially in rural areas.[3] Barriers that have contributed to the low frequency of coaching include the inspector strike, funding, transportation, distance, and time.

Although qualitative findings show that most inspectors are aware that they should be coaching coaches and teachers once per trimester, both quantitative and qualitative findings show that frequency of inspector coaching is low. As noted in Table IV.3, 80 percent of teachers and directors reported no coaching visits from their inspector from January to March 2019 in the EGRA Midline. This is consistent with the qualitative findings, which suggest that a majority of director-teachers and director-coaches have never been coached by an inspector. This suggests that beyond the External CAP and CODEC meetings, director-teachers in particular may not receive any coaching.

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[3] Once per quarter when school is in session, resulting in 3 times per year

Table IV.3. Inspector coaching

Outcome	Full sample	Urban	Rural	P-value of difference between Urban and Rural
Teacher received no inspector visits to classroom (Jan-March)	74.7% (3.3%)	40.1% (10.4%)	78.9% (3.0%)	0.0003
Director reported no inspector visits to school (Jan-March)	78.2% (3.1%)	49.9% (9.9%)	81.3% (2.9%)	0.0152
Inspector/coach came to observe/support director in role as director/coach[a]	64.8% (8.7%)	68.7% (23.6%)	63.7% (9.3%)	0.8253
Inspector/coach came to observe and support CI and CP teachers[a]	85.3% (6.7%)	98.6% (0%)	81.4% (8.6%)	0.0399
Sample size (teachers)	**492**	**45**	**447**	
Sample size (directors)	**338**	**28**	**310**	

[a] these outcomes are conditional on the inspector having visited the school between January and March 2019.
Source: 2019 EGRA SSME Teacher and Director Surveys
Notes: Means include school-level weights to account for differing probabilities of school selection across region and language group. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data. The table reports mean percentages for each variable, followed by standard errors (se) in parentheses.

The inspector strike was a major barrier to coaching during the 2018-2019 school year, though it is difficult to know to what extent the lack of inspector coaching was due to the strike and to what extent it was due to other challenges. Inspector coaching was also a challenge during the 2017-2018 school year, during which LPT monitoring visits to LPT schools found that only 53 of the 99 inspectors that received coaching training had actually visited schools and that only 40 school directors had received coaching from inspectors (Chemonics 2018).

Several inspectors reported wanting to receive payment for each coaching visit, and asked for increased funds for gas, transportation and printing. Some inspectors reported having used their own resources for gas and transportation. LPT and MEN staff also noted the funding complaints in key informant interviews and referenced plans for additional support for inspectors to conduct coaching in the 2019/2020 school year. They also expressed curiosity as to whether or not paying a per diem for coaching would create the necessary incentive for inspector coaching.

Many inspectors also noted that they did not have enough vehicles to complete the number of coaching sessions required, which is made challenging by the distance of schools from inspectors' offices. The quantitative data from the EGRA Midline further documents the challenges of reaching remote schools, showing that teachers in urban schools were 39 percentage points more likely to report a coaching visit during the past 3 months than those in rural schools (60 percent in urban areas vs 21 percent in rural areas) (Table IV.6). Directors in urban areas were also 31 percentage points more likely to report an inspector coaching visits during the same period than directors in rural areas (50 percent vs. 19 percent). This is not a new challenge: the

EGRA baseline data also showed that directors in urban schools were 19 percentage points more likely than directors in rural areas to have reported an inspector visit during the school year (92 percent vs. 73 percent).

In addition, most inspectors in the qualitative interviews pointed to their lack of availability to conduct and support coaching, given the need to supervise other school subjects and other projects, and the low inspector-school ratio. Many also noted that their responsibilities for coaching were not clear enough, which made planning for coaching even more difficult. LPT and USAID staff indicated that the program is working to mitigate the challenges associated with the limited resources and availability of inspectors to coach, but also noted the importance of the MEN's involvement in planning and providing logistical support especially given competing priorities of inspectors. LPT and USAID staff also noted the importance of institutional support at the national MEN level so that coaching can become an established activity in inspector practices. Although the MEN has been supportive in achieving this goal, which is also reflected in inspectors and MEN staff indicating support for LPT, MEN may need to play a larger role in promoting coaching to overcome the challenges observed with inspector coaching.

Finding 7: A collaborative method for inspector coaching called "inspection groupée" may increase the frequency of inspector coaching for directors and teachers.

To alleviate some of the logistical barriers to effective inspector coaching, LPT staff noted that the program had tested a new model of inspector coaching called "inspection groupée" at the end of the 2018-2019 school year. By having multiple inspectors travel together and then conducting individual school visits, some of the logistical challenges can be resolved while also making it easier for LPT to know that these visits are happening. In the qualitative interviews, several inspectors mentioned having participated in this model, which they preferred to the current model of solo coaching. LPT staff noted that the "inspection groupée" model was implemented by the MEN and inspectors for non-coaching activities as well. A few inspectors suggested meeting with several teachers at once in one school, instead of providing personalized one-on-one coaching, in order to improve the efficiency of inspector coaching and increase the frequency with which teachers receive coaching from inspectors.

Finding 8: The quality of inspector coaching has been difficult to assess due to limitations in inspector reports, but some directors and teachers report that they prefer director coaching over inspector coaching.

Reporting from inspectors and directors is not adequate to understand the frequency and quality of inspector coaching. Inspectors in qualitative interviews mentioned that it was their role to send a report to LPT (approximately every three months) detailing the frequency of coaching and visits, and the completed observation tools (such as the *bulletins* or *rapports de coaching* and the *grilles d'observation*). It is also important to note that many inspectors did not finalize their action plans containing planning for coaching at the beginning of the school year. In addition to reporting about their own coaching visits, inspectors are also responsible for receiving, reviewing, and consolidating information from coaching tools completed by directors in order to better

understand teachers and director challenges and to inform their own coaching in schools and in External CAP sessions. LPT staff mentioned that inspectors were submitting this information, but that it was not very detailed, which suggests that inspectors are not receiving enough detailed information from directors or are not reviewing and using the data as needed. A lack of detailed information from directors is likely the primary cause of poor inspector reporting, since LPT and MEN staff noted that inspectors were more likely to submit coaching tools than directors. It is worth noting that inspectors' reimbursement for transportation for coaching is dependent on the submission of the tools, while there is no specific incentive tied to director submission of coaching forms.

Overall, due to the limited frequency of coaching provided by inspectors this past school year, inspectors, directors, and teachers had little to say on the usefulness and quality of inspector coaching. Due to the short time-frame of inspector coaching, it was difficult for inspectors to see the progress of teachers based on their coaching; however, some inspectors in the qualitative interviews reported that teachers were receptive to coaching because they are beginning to see positive changes in their practice. At the same time, the qualitative interviews suggested that directors and teachers prefer director coaching over inspector coaching, partially due to the hierarchical nature of the education system and the typical role of the inspector as a supervisor. These teachers also noted in interviews that the rapid testing of children that inspectors are meant to perform as part of their visits is an added source of stress for teachers because they associate it with other rapid testing done for accountability purposes

3. Coaching in the classroom: Director coaching

Finding 9: Despite disruptions to coaching training caused by the inspector strike, directors have a strong understanding of the coaching role and teachers have positive perceptions of director coaching.

Directors are largely receiving coaching training as intended, although the quality of coaching training during the 2018-2019 school year may have been affected by the inspector strike. According to the EGRA midline data, 98% of directors who said that they act as a coach reported having attended coaching training this year or last year (Table IV.4). Those who attended had on average 6 days of training, which lines up with the planned three days of initial training and three days of refresher training. LPT quarterly reports show that 2,354 directors were trained on coaching in December 2018, and 2,459 school directors received a refresher training in March 2019 (Chemonics 2019a, 2019b). Despite the fact that 98 percent of interviewed directors reported being satisfied with the coaching training, some directors noted that the quality of training for coaching during the inspector strike was not adequate, most likely because inspectors were unavailable to lead these training sessions. MEN staff also noted in key informant interviews that training on coaching for directors was insufficient in general, especially given the complexity of the coach role.

Table IV.4: Director training on coaching

Outcome	Mean	SE
Received training on coaching this year or last year (percent)[a]	97.8	0.8
Number of days of training on coaching received[b]	6.5	0.2
Sample size (directors)	246	

Source: 2019 EGRA SSME Director Survey
Notes: Means include school-level weights to account for differing probabilities of school selection across region and language group. Sample size shown is for the sample of directors who reported being a coach.
[a] Conditional on being a director-coach
[b] Conditional on being a director-coach and having received coaching training.

While there may have been some challenges with coaching training quality during the 2018-2019 school year, overall, directors' and teachers' perceptions of the coaching role and the structure of coaching sessions are in line with LPT's expectations. In the qualitative interviews, directors and teachers communicated the idea that the coach needs to help the teacher understand what is going well and what needs to be improved on and motivate and facilitate this improvement. In particular, directors and teachers noted in interviews that the coaching relationship needs to be one of trust, respect, communication, and collaboration. LPT staff noted that coaching was not an innate competency for most, and that it takes time to perfect and become disciplined. Directors appear to have acquired some of these competencies and are implementing lessons from the coaching training, as most teachers reported that they were comfortable with their director acting as both a coach and a supervisor. Some teachers interviewed even mentioned that coaching has improved the relationship with the director because directors now visit their classrooms more frequently.

Reflecting correct implementation of lessons learned from the coaching training, both directors and teachers reported that coaching sessions are structured as an observation of the teacher during an LPT lesson, and a feedback session either directly after or during a break to avoid breaking up the class. Several directors noted the importance of teachers' self-evaluation at the start of this feedback session, to ensure a two-sided discussion. As mentioned in the inspector coaching section, some directors also conducted rapid testing of teachers, given that inspectors were not available to do so during the inspector strike.

Overall, teachers overwhelmingly said that coaching was useful and that it encouraged them to persevere, particularly because directors had more experience than they did. A few teachers and directors interviewed noted that they observed progression and improvement in teacher practice due to coaching. Teachers described coaching as having helped clarify what they did not

> " Il n'était jamais entré dans ma classe et depuis que le programme de la LPT a été initié il est fréquemment dans ma classe » - Teacher in Kaolack region

understand in training, with some even calling the coaching sessions a "continuation of training." For those teachers that were not fluent in the language of instruction, most mentioned that coaching was very useful. Given this positive assessment, many teachers interviewed reported

preferring director coaching over inspector coaching. MEN staff also reflected on this in key informant interviews, and noted the importance of directors as coaches given that directors interact more frequently with teachers.

Finding 10: Many directors struggle to coach teachers and perform their day-to-day responsibilities. Barriers for director coaching include availability of the director and language of instruction.

The EGRA midline data indicate that only 50 percent of teachers are receiving two coaching sessions per month (Table IV.5). In addition, 20 percent of teachers did not receive any coaching visits from the director between January and March. However, in the qualitative interviews, most directors reported coaching teachers 1-2 times per month – a frequency also cited by teachers – with some noting that they received more coaching than necessary. In the cases where coaching was not occurring as often as it should, teachers and directors in the qualitative interviews noted this was most likely due to the availability of directors who are also teachers or who have schools with multiple LPT teachers.

Table IV.5. Director coaching frequency

Outcome	Mean	SE
Teacher-reported		
Receives at least 2 visits from coach/director per month (%)	57.6%	3.6%
Number of coaching visits received from director, January-March 2019:		
None	16.9%	2.5%
1-2	24.4%	2.8%
3-4	33.1%	3.3%
5-6	22.0%	2.6%
7 or more	3.5%	0.9%
Director-reported		
Conducts coaching sessions (if a coach) (%)	98.8%	0.8%
Number of coaching visits to CI classrooms (if a coach)		
None	5.6%	2.3%
1-2	15.6%	2.9%
3-4	31.9%	4.1%
5-6	31.7%	3.7%
7 or more	15.2%	2.8%
Number of coaching visits to CP classrooms (if a coach)		
None	6.9%	1.6%
1-2	17.4%	3.8%
3-4	37.0%	5.2%
5-6	29.9%	4.8%
7 or more	8.8%	3.1%
Sample size (teacher)	**492**	
Sample size (director)	**241**	

Source: 2019 EGRA SSME Teacher and Director Survey

Among teachers, female and urban teachers seemed to receive more coaching than others, based on the EGRA midline data. Specifically, male teachers were 17 percentage points more likely than females to report having received no coaching visits from their director between January and March (22 percent vs. 5 percent), while female teachers were 13 percentage points more likely to report having received 1-2 visits than males (34 percent vs. 21 percent). It is not immediately evident why this is the case. In addition, teachers in rural communities were 18 percentage points more likely to report no coaching visits from the director between January and March than teachers in urban communities (19 percent vs. 1 percent). This is likely due to the fact that rural schools are significantly more likely to have directors that also teach than urban schools (31 percent vs. 14 percent).

In general, the largest barrier for director coaching was the availability of the director, especially for directors that also teach. 77.5 percent of directors in the EGRA Midline sample said that they also teach, and about 40 percent of those directors teach LPT grades (CI, CP, or both). This is also the case for schools that have 2-3 LPT teachers, given that coaching is meant to have occurred twice a month for each teacher and that directors have other duties to which to attend. Furthermore, 17 percent of sampled schools have 2 or 3 CI classes and 16 percent have 2 or 3 CP classes. In a school with 2 CI classes and 2 CP classes (7 percent of the sample), the director would be responsible for 8 coaching sessions a month. LPT and USAID staff reiterated this challenge as well, noting that director availability may become even more difficult once CE1 is added to the program.

Language of instruction can also be a barrier to effective director coaching. In particular, coaching becomes difficult when the coach does not speak the language of instruction fluently. However, teachers with directors that did not speak the language of instruction fluently noted in interviews that the coach can still help with the pedagogical aspects.

Overall, teachers and directors in the qualitative interviews desire more frequent coaching. For this to happen some respondents noted the director would need to be "déchargé" or released from their teaching duties. Teachers also agreed that having an additional coach would be useful to increase the frequency of coaching sessions.

Finding 11: There is some evidence to suggest directors require more training and guidance to improve their coaching skills and reminders of the required administrative tasks that follow coaching sessions.

Teachers interviewed noted that coaching could sometimes be disruptive. Some teachers noted that the director would come visit in the middle of the lesson, and the teacher would have to start the lesson over again for coaching purposes. One teacher mentioned that they were embarrassed to receive coaching in front of students. A few of the directors interviewed mentioned that they often conduct coaching outside of class time to avoid these issues. However,

directors may need additional support and guidance in the logistics of providing coaching in order to determine the best timing and location for coaching, and how to provide coaching in not-disruptive way. Evidence from LPT's coaching observations also shows some deficiencies in director coaching skills. Based on observation of 40 different coaches, LPT found that only 10 percent of coaches demonstrated perfect mastery of early grade reading instruction and coaching (LPT Evaluation des elements de coaching) and that about only 57 percent mastered at least 80 percent on the observed elements.

Director coaches are also responsible for completing and submitting coaching forms once the coaching session was over. However, while most directors in qualitative interviews mentioned that they used the *fiche* or *outil de coaching*, few explicitly mentioned sending it to their IEF. If directors are not submitting these tools to the appropriate office, this may explain why inspectors are not producing coaching reports that are detailed enough for LPT to understand whether and how coaching is occurring. LPT and MEN staff also mentioned that directors were not filling out these tools with sufficient detail and sharing the information in a timely manner in order to generate useful M&E data. However, as noted by LPT and MEN staff in key informant interviews, there are plans in place for the upcoming school year to mitigate these issues and produce a better flow of data from directors to IEF to IA to LPT. LPT staff suggested that this process could be improved by asking the CODEC to collect the tools monthly or even weekly and by providing more vehicles to local LPT M&E staff. Support from the MEN in terms of institutional data collection would also be helpful in supporting LPT and for sustainability once the project is completed.

4. Coaching in the school and network of schools

Finding 12: Peer-to-peer communication among teachers, directors, and inspectors regularly takes place through formal, in-person meetings (Internal and External CAPs and CODEC) and informal, technology-based channels (WhatsApp, phone calls, SMS). The rollout of the *Flotte* in some regions has further facilitated the use of technology for peer learning.

Almost all teachers (98 percent) are in contact with colleagues to discuss LPT, through a variety of means, including in-person interactions, through phone calls, and via text messages and WhatsApp. The quantitative data show that teachers communicate with other teachers on a daily basis more through WhatsApp than through any other form of communication. This is followed by in-person contact, calls, and texts. About 79 percent of teachers say they use WhatsApp at least occasionally to communicate with colleagues, compared to only 51 percent who use text messages (Figure IV.3). Although many schools do not have technological infrastructure, access to electricity and phones is still high: 84 percent of teachers have a smartphone and 21 percent have a basic phone[4]. 100 percent of teachers in urban areas have a place to charge their phone, compared to 84 percent in rural areas.

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[4] Teachers may have more than one phone.

Figure IV.3. Peer-to-peer communication
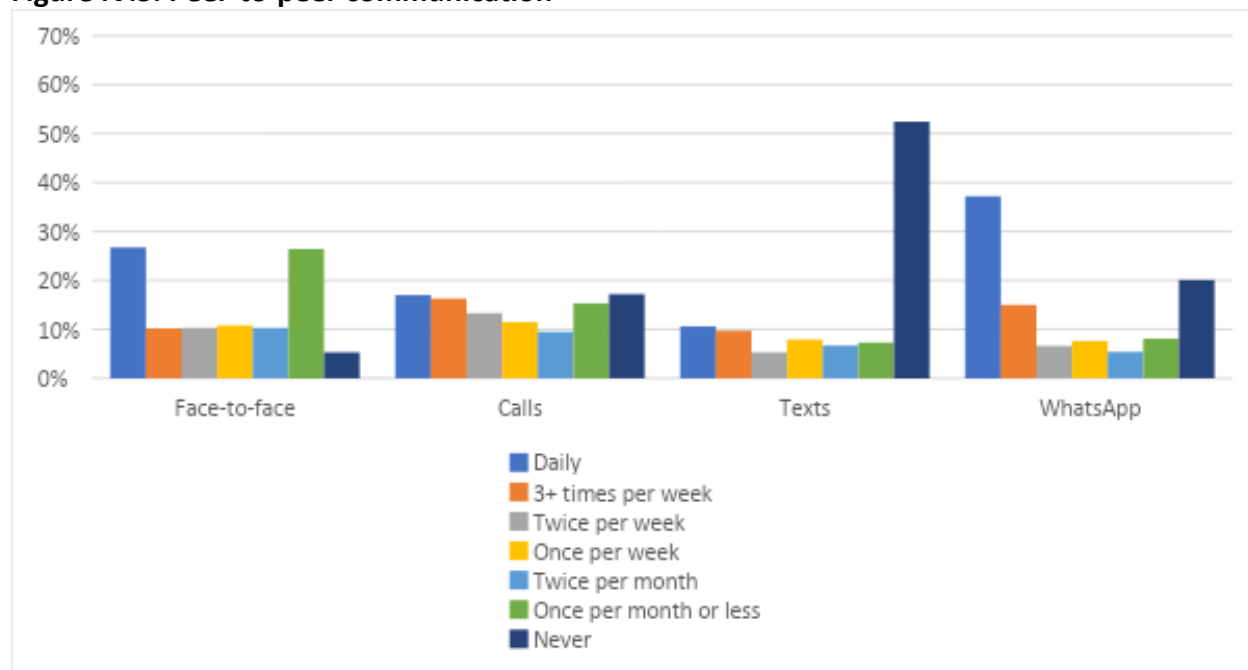
Sample size (teachers): 492
Source: 2019 EGRA SSME Teacher Survey
Notes: Means include school-level weights to account for differing probabilities of school selection across region and language group. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data.

Director and inspector peer-to-peer communication also happens through a variety of means. Director interaction is less frequent than teacher interactions and, outside of informal in-person meetings, occurs mostly through calls, WhatsApp, External CAP, and CODEC. Inspector interaction happens frequently and occurs mostly through calls, WhatsApp, and email. According to qualitative interviews, almost all inspectors have WiFi, computers, and smartphones.

Having access to the *Flotte* makes peer-to-peer communication much easier. The EGRA Midline data shows that the frequency of phone calls, SMS, and WhatsApp are significantly higher in the ICT pilot regions than in the non-pilot regions. For instance, 29 percent of teachers in the ICT pilot regions report making phone calls daily, compared to only 8 percent of teachers in non-ICT pilot regions (Table IV.6). Similarly, 50 percent of teachers in the ICT pilot regions use WhatsApp daily, compared to 28 percent of teachers in non-ICT pilot region.

Table IV.6. Technology use in ICT pilot regions (teacher-reported)

Outcome	ICT pilot regions	Non-ICT pilot regions	P-value of difference
Frequency of phone calls with teachers/colleagues			
Daily	29.1% (5.6%)	8.4% (2%)	0.00058
More than twice a week	23% (4.1%)	11.5% (2.5%)	0.01592
Twice a week	20% (4.2%)	8.4% (1.8%)	0.01098
Once per week	8.7% (2.8%)	13.5% (2.4%)	0.20251
Twice per month	9.6% (3.2%)	9.5% (1.9%)	0.96720
Once per month or less	7% (2.6%)	21.2% (2.9%)	0.00028
Never	2.5% (1.1%)	27.6% (3.1%)	0.00001
Frequency of text messages with teachers/colleagues			
Daily	16% (4.6%)	6.8% (1.6%)	0.06337
More than twice a week	9.7% (3.4%)	9.8% (2.7%)	0.98596
Twice a week	4.3% (2.1%)	6.1% (1.6%)	0.50351
Once per week	7% (2.5%)	8.5% (2.1%)	0.65778
Twice per month	8.6% (4.2%)	5.4% (1.5%)	0.47303
Once per month or less	3.9% (1.7%)	9.7% (2.1%)	0.03248
Never	50.5% (6%)	53.8% (4%)	0.64663
Frequency of WhatsApp messages with teachers/colleagues			
Daily	49.7% (5.7%)	28.3% (3.2%)	0.00115
More than twice a week	13.2% (3.7%)	16.3% (2.6%)	0.48155
Twice a week	3.2% (1.9%)	9.1% (2.3%)	0.04989
Once per week	8% (3.2%)	7.3% (1.7%)	0.86000
Twice per month	5.4% (2.6%)	5.4% (1.5%)	0.99559
Once per month or less	8.4% (3.2%)	7.9% (2%)	0.88787
Never	12.2% (3%)	25.7% (3.1%)	0.00195
Sample size (teachers)	**206**	**286**	

Source: 2019 EGRA SSME Teacher Survey

Notes: The table reports mean percentages for each variable, followed by standard errors in parentheses. Means include school-level weights to account for differing probabilities of school selection across region and language group. We tested differences in group means by using two-tailed t-tests. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data.

Finding 13: Peer-to-peer learning and support, whether in-person or through ICT, have made teachers and directors feel more supported and better able to perform their jobs.

Our qualitative findings show that peer-to-peer coaching may be particularly important for teachers who do not speak the language of instruction fluently and for both teachers and directors with less experience. Calls are often used to discuss pedagogy questions, and teachers specifically mentioned that they value the ability to consult a larger group for help and support through WhatsApp or the *Flotte*. The creation of WhatsApp groups during teacher training was mentioned as a facilitator of peer-to-peer coaching and the *Flotte* allowed teachers and directors to communicate across regions, and particularly, to communicate with teachers in schools with the same teaching language.

> *« Je peux rencontrer un blocage donc là je prends mon téléphone j'appelle un autre directeur pour qu'il me donne une béquille pour dépasser ce blocage »* - Director in Kaolack region

Finding 14: Inspectors, directors, and teachers view CAP and CODEC sessions to be valuable fora for sharing information, feedback, and good practices, though inspector attendance at such meetings has been uneven.

> *« A chaque fois qu'un enseignant peut avoir des difficultés, il soumet ça au groupe et on intervient. »* - Teacher in Diourbel region
>
> *« Vraiment avec le groupe WhatsApp LPT, c'est la formation continue. »* - Teacher in Kaolack region

Within the existing Senegalese education system, CAPs held both inside the school and externally with a cluster of schools, as well as the CODEC, play an important role in continuous professional development for teachers and directors. Teachers are required to work four hours a month outside of the classroom, some of which should be devoted to time spent at CAP sessions. Internal CAPs are intended to be held monthly within the school, and are led by the director. External CAPs are held once a quarter during the school year and should be led by the inspector, a resource person, or a trained and experienced school director. Although these structures are institutionalized, in practice implementation of Internal and External CAPs has varied across schools and clusters of schools (Chemonics 2017a). Part of LPT's objective is to strengthen the role of the CAPs in continued training and coaching during the school year.

The CODEC is an association of directors that meets periodically during the school year. The purpose of this meeting is to allow for directors to meet with peers and discuss important themes. Directors use the CODEC for organizing and planning the External CAP sessions, as well as reporting on the activities and results from each External CAP (Lecture Pour Tous 2019a).

Inspectors, directors, and teachers all have a different role to play within this system, and their participation in and experience with the CAPs and CODEC differ. Our findings from the qualitative data collection show that:

- **The External CAP and CODEC serve as important venues for inspectors to share and gather information, but they don't always attend.** In several interviews, inspectors reported that they did not always attend the External CAP, mostly citing the inspector strike, which leaves the directors (so-called "super coaches") in charge of these meetings. When inspectors are present, qualitative findings suggest that External CAPs help inspectors visualize issues that are occurring across several schools so that they can report them back to LPT. The CODEC has also served as a data collection point: a few inspectors reported that they collect director data from the coaching tool and *grille d'observation*, compile those data at the IEF or IA level, and then share the data with LPT. One inspector mentioned using the CODEC data to inform his coaching – he reviews the data and talks to director-coaches about specific issues in their schools.

- **The External CAP and CODEC are very important for directors and they enjoy the opportunities for joint learning and communication.** Based on our qualitative findings, External CAPs happen about three times a year (as intended), and are one of the few times during which directors can meet with other directors. Directors use these sessions to introduce or clarify material, find solutions to issues, and model coaching to receive feedback from peers. In addition, directors noted that the CODEC was a space to receive information about LPT, note difficulties with the program, and share experiences among directors.

- **Similarly, teachers report that the Internal and External CAP serve to reinforce and model concepts from the LPT trainings.** The External CAP sessions are used primarily to clarify and model pedagogical concepts, and to discuss challenges and potential improvements. Directors and teachers reported that the

> *« C'est à l'occasion de la cellule mère que nous faisons ces partages. […] Cette relation est une relation très importante, nous l'exploitons entre directeur. »* - Director from Fatick region

sessions were an opportunity for directors and inspectors to head differing opinions and methods from CAP participants, and then ensure that everyone is in line with LPT best practices. Teachers who do not speak the language of instruction fluently or whose coaches do not speak the language fluently are particularly keen on attending these meetings, because they can find support. Similarly, the Internal CAP sessions are also used for modeling and for reinforcement, and offer the opportunity for directors to correct specific behaviors or practices that they have observed. Directors mentioned that the Internal CAP is useful for teachers that did not receive training or for when a director has just received training and would like to share the material. In general, teachers would like these to be longer as well.

> *« C'est un moment intense d'échange. »* - Teacher from Matam region

Finding 15: The usefulness of the Internal and External CAP as a mode of continuous professional development for LPT teachers and directors may be limited by the fact that these sessions are not intended solely for LPT teachers.

In schools with only 1 LPT teacher, teachers reported that the conversation during the Internal CAP never focused on LPT. And although the MEN mandated that at least three External CAP sessions include information about the LPT curriculum, the amount of time devoted to LPT varies across CAP sessions (Chemonics 2019c). This may be partially due to the fact that the MEN announcement went out after many groups had created their External CAP action plan, making it difficult to include sessions focused on LPT. During interviews, LPT staff discussed how the MEN should be explicit about including LPT topics in the planning for the External CAP (even though it's not just CI and CP teachers who participate in the CAPs) at the beginning of the school year.

Finding 16: Factors that affect participation in Internal and External CAP sessions include teacher gender and level of director experience.

It appears that implementation of LPT activities within CAP sessions and access to CAP sessions remains a challenge. In the EGRA Midline data, more teachers and directors reported participating in the External CAP than the Internal CAP (89% vs. 70% for teachers, 91% vs. 76% for directors). Directors with less experience (1-2 years) were significantly less likely to have participated in Internal or External CAPS than directors with more than 2 years of experience. In fact, only 54 percent of directors with 1-2 years of experience reported participating in an Internal CAP in their school. Given that Internal CAPs should be organized and led by school directors, this may signal a lack of understanding about how/when to organize these sessions or a lack of ability to do so.

Access to the External CAP also appears to vary by teacher gender. In the qualitative interviews, several female teachers suggested that it would be easier for them to attend the External CAP sessions if they took place during the week, given familial responsibilities on the weekend. These concerns are supported in the EGRA Midline data, which shows that male teachers are slightly more likely to participate in External CAP (92% vs. 81%, p-value =0.0732). Participation in the Internal CAP is not significantly different between males and females.

Finding 17: There appears to be opportunities for integrating ICT in coaching, including collecting data and overcoming distance and logistical barriers.

ICT offers the opportunity for improved information gathering at the Inspector level. Findings from the qualitative data collection show that the CODEC provides a way for inspectors to collect data that they can use to address specific issues with directors and teachers. However, given the limited frequency of CODEC sessions, inspectors could benefit from more real-time feedback on what is happening in their schools and modalities for improving both coaching and teaching. LPT and MEN interviews reveal that LPT is aware of this opportunity and plans to address it through the distribution of tablets to IEFs and the rollout of the Telerivet system, which will allow LPT to administer quizzes to collect information about teacher challenges. This information could help

inspectors plan for content to be covered during the External CAP and also better support directors in providing relevant coaching to the teachers in their schools.

ICT is valuable for inspectors and directors in general because it allows users to communicate and share information across large distances and in real time. Some inspectors reported performing coaching via calls which helps surmount the distance and logistical barriers for inspectors. ICT also helps inspectors and directors share files in the case of delay in delivery of paper files. Although some directors and inspectors are actively using ICT for these purposes, some potential remains untapped. For instance, most directors are unaware of the content available to them on the SIMEN platform.

Not only can ICT improve the amount of information that Inspectors have on what is happening in their schools, but it can also facilitate the flow of information to LPT and improve overall monitoring of coaching activities. The Telerivet system roll-out during the 2019-2020 school year will help LPT understand whether or not teachers are receiving coaching, the frequency of coaching, and whether or not they find it useful. MEN staff are also eager to improve the monitoring and evaluation of coaching through the Telerivet system in order to inform decisions at the Ministry level. LPT will be able to support coaching activities through digitalized coaching tools and modeling videos. LPT staff also reported that they hope the distribution of tablets at the IEF level will result in LPT receiving more frequent M&E data. Despite these opportunities, some LPT staff expressed concern about the organic quality of digitalized tools and the burden of technology on school staff.

V. Conclusions and recommendations

In this section we summarize key findings from Phase I and discuss potential ways in which the identified barriers could be addressed through modifications to LPT's coaching model.

Summary of Key Findings

A review of quantitative project data and interviews with teachers, directors, inspectors, Ministry of Education staff, and LPT and USAID, finds that there are several positive findings related to LPT's coaching approach:

- Inspectors understand the responsibilities and objectives associated with the coaching role. They also understand key differences between the coaching and supervisor roles.
- Directors regularly coach teachers and their supervisory role has not functioned as a barrier to providing effective coaching.
- Peer-to-peer support and learning is viewed as valuable for both teachers and directors, and is facilitated by the ICT tools that LPT has begun to roll out, such as the *Flotte*.
- Internal and External CAPs and CODEC, when they happen, are an additional source of regular reinforcement of trainings and are valuable for teachers and directors. They are

also a valuable source of information for inspectors for communicating what is happening in schools and where teachers and directors need additional support related to LPT.

● Teachers appreciate and benefit from the coaching they do receive. Teachers reported that coaching helped clarify what they did not understand in training and resulted in an improved relationship with directors and that both director coaching and peer-to-peer learning provided much-needed support for teachers that do not fluently speak the language of instruction.

At the same time, our findings also show that there are some challenges to implementation of LPT's coaching mode, including the following:

• The cascading training of trainers model for coaching training requires the expertise and intensive participation of inspectors, and struggles to function effectively if they are not available.

• The hierarchical structure in Senegal's education system impacts both the way that inspectors perceive their role and directors' role within LPT (they don't always agree with LPT-defined coaching roles) and the way that teachers perceive coaching from inspectors (some teachers reported feeling stressed by inspector visits).

• This lack of inspector availability and buy-in mean that director-teachers and director-coaches miss out on opportunities to improve their effectiveness.

• Many teachers are receiving coaching, but directors, particularly those who are teachers themselves and those in schools with multiple LPT teachers, struggle to find time to coach teachers.

• The full potential of the coaching model is hampered by a lack of information on multiple fronts. Inspectors have few opportunities to gather information about challenges and issues in schools, and even fewer opportunities to use that information to better support teachers/directors. LPT, in turn, has limited information on if, when, and where coaching is happening, the quality of coaching that is being delivered, and which elements of the curriculum challenge teachers.

• The Internal and External CAPs and CODEC, though useful for some directors and teachers, are not an optimal source of continued professional development for LPT teachers and directors because of inconsistent implementation across districts, challenges some teachers face with attending the External CAPs, and lack of focus on the LPT curriculum.

Opportunities for improvement

Rapid Feedback's review of the literature and the findings from this formative research suggest that there are modifications to the LPT coaching model that could be effective at mitigating some of the barriers to effective coaching. We recommend that LPT and USAID consider the following opportunities for adapting LPT's current coaching model in planning for coaching during the

upcoming school year. We also provide some illustrative examples of potential modifications that could be incorporated to help LPT improve the coaching model. Such modifications could be tested by Rapid Feedback MERL during Phase II to determine if they are effective in improving the quality of coaching.

Opportunity 1: Continue with plans to expand the role of ICT in LPT's coaching model. Our analysis reveals that ICT has the potential to improve coaching in multiple ways. Teachers have embraced coaching, with some expressing a desire for additional support. They also already use ICT for peer-to-peer support and learning. These conditions make it likely that teachers will use and benefit from additional support provided through ICT, which holds the potential to mitigate several of the challenges highlighted above.

Distribution and use of tablets, which will include features such as videos that model good classroom techniques and the ability to collect coaching data electronically, and the Telerivet system, which will include features such as formalized networks and the ability to ask questions of peers and supervisors, among others, should continue to be pursued as an important component of LPT's coaching model. Rapid Feedback MERL could leverage LPT's existing plans to pilot the tablets in a limited number of schools to compare coaching with Telerivet to coaching with Telerivet plus tablets.

Opportunity 2: Take steps to improve the frequency and quality of data to which both inspectors and LPT have access, and ensure appropriate use of those data. The current approach, in which directors submit paper forms to inspectors on a monthly basis for them to analyze, faces logistical challenges. The External CAP and CODEC can also be used to aggregate data, though they don't currently occur with the frequency needed for the coaching data to be shared and analyzed. ICT has the potential to improve data transmission, but only if directors are able and willing to enter coaching and other school-level data into electronic forms. With directors having limited time and, potentially, limited technological proficiency, a model that relies on extensive data entry at the school level should be tested for feasibility. Improved transmission of data from directors to inspectors will only strengthen coaching if it is used by inspectors to provide feedback and guidance to directors to improve their coaching (in-person or through tailored content in External CAP and CODEC).

LPT will likely need to work with inspectors to facilitate analysis of those data, to determine the appropriate responses based on the analysis, and encourage action around the appropriate response. Although the flow of data has been limited thus far, LPT staff noted that there are plans to improve data collection during the next school year to inform analysis and action at the IEF, IA, and LPT levels. As part of Phase II, Rapid Feedback MERL and LPT could test one or more strategies to improve the quality and application of coaching data, such as the introduction of training modules for inspectors on the analysis of coaching data or variation of the user interface used for directors to input their coaching data.

Opportunity 3: Consider alternative ways to reinforce the support (particularly the coaching) that directors receive to ensure that they are providing high quality coaching to teachers in light of inspectors' limited ability to visit schools. The "inspection groupée" is a model that could be leveraged to increase inspector visits to schools, and may be most effective if timed so that inspectors have the opportunity to observe directors coaching within 1 to 2 months after the coaching training. Receiving feedback relatively early in the school year could also improve director coaching quality. In addition, LPT could work with the MEN to sensitize them to the principle that directors can be effective coaches with proper support. LPT could also consider other options that are not currently included in the design, such as coaching support at a central level either in person or through video. One or more of these options could be tested by Rapid Feedback MERL and LPT during Phase II.

Opportunity 4: Accommodate and support coaches that are incapable of providing the required amount of coaching sessions as currently designed and consider alternative methods of delivering the desired amount of coaching to teachers. Directors face significant challenges coaching each early grade reading teachers two times per month, an obstacle that is only going to become more difficult as the number of LPT classes increases. However, reducing the required frequency of coaching is not a desirable solution to address this issue. Alternative options include increasing the use of the Internal CAP for coaching by other teachers in the school and External CAP for coaching by directors in schools where directors have multiple teachers to coach. In schools where directors are also teaching, the inspector or another person in a role as a coach may be able to fill some of the gap in coaching sessions. Such alternative models, combined with a full rollout of the Telerivet system to teachers, may improve the quality of coaching and ensure that all teachers receive at least some coaching. These may also represent viable options for testing during Phase II. Regardless of the method chosen, careful planning at the start of the school year will be required to determine who needs additional coaching support.

VI. Next Steps

The purpose of this memo is to document the status of coaching activities within LPT and review the literature in order to determine whether there are alternative coaching models that LPT may be able to test during the upcoming 2019/2019 school year.

As an immediate next step, Rapid Feedback MERL would like to organize a virtual learning check with LPT and USAID to discuss these findings, as well as potential options for alternative coaching models to test during the 2019/2020 school year. Rapid Feedback MERL will then use the feedback and ideas discussed during the learning check and in response to this memo to propose a plan for rigorously testing one or two alternative coaching models (in additional to LPT's existing model) during the upcoming school year.

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Appendix A: Data collection

Desk review

The Rapid Feedback MERL team reviewed all available LPT documentation to inform this study. The key documents that provided valuable insights on the rationale for LPT's coaching models and the status of implementation are presented in Table A.1 below.

Table A.1. List of LPT documents reviewed

Document title	Document date
Guide du coaching et de la supervision de proximité	November 2017
Guide pratique du coaching et de la supervision de proximité	November 2018
Module de formation en coaching supervision de proximité	November 2018
Lecture Pour Tous Quarterly Report : Year 3, Quarter 1	January 2019
Plan opérationnel du coaching 2018-2019	February 2019
Synthèse de l'évaluation de la mise en œuvre des activités de coaching de l'an 2	2019
Scénarios de pilotage d'utilisation des TIC pour le coaching	April 2019
Lecture Pour Tous Quarterly Report : Year 3, Quarter 2	April 2019
Options TIC et recommandations pour le développement professionnel des enseignants	July 2019
Lecture Pour Tous Quarterly Report : Year 3, Quarter 3	July 2019

Qualitative data collection in communities

Sampling

The sample frame for the qualitative data collection in communities was the full list of LPT schools in the six regions receiving LPT Outcome 1 activities, excluding those that had not yet, for a variety of reasons, received the LPT program. Rapid Feedback MERL also excluded the schools sampled for inclusion in the EGRA midline data collection to minimize respondent burden. From the resulting list, Rapid Feedback MERL purposively sampled 18 schools/communities in which to conduct interviews and focus group discussions with inspectors, directors, and teachers. The objective was to sample six schools from each of the three languages, with coverage across all six regions. Within those strata we randomly sampled schools, and then replaced a few schools to ensure some coverage of urban schools, reflecting the fact that approximately 10-15 percent of all LPT schools are located in urban areas. The final sample included four urban schools. The distribution of these 18 schools across region and language of LPT instruction is shown in Table A.2.

Table A.2. Qualitative data collection – school sample size

	Schools/Directors			
Region	Pulaar	Seereer	Wolof	Total
Diourbel	0	2	0	2
Fatick	0	2	0	2
Kaffrine	1	0	3	4

Kaolack	0	2	2	**4**
Louga	1	0	1	**2**
Matam	4	0	0	**4**
Total	**6**	**6**	**6**	**18**

In total, Rapid Feedback MERL interviewed 18 school directors, 15 teachers[5], and 13 inspectors[6].

Protocol development
Rapid Feedback MERL first identified key themes related to coaching for each respondent before drafting the full protocols. The draft protocols were revised at several stages, including after LPT's review, after the pretest, and after the pilot during data collection training.

Fieldwork
Rapid Feedback MERL contracted local data collection firm APAPS to conduct this work. APAPS was responsible for conducting a pretest of the protocols, recruiting and training qualified interviewers, conducting data collection, and providing original audio files and transcriptions in French to Rapid Feedback MERL. The key data collection activities and dates are summarized in Table A.3.

Table A.3. Qualitative data collection activities

Activity	Dates
Pretest in 2 communities in 1 region (Diourbel)	April 29, 2019
Interviewer training	May 6-10, 2019
Pilot in 4 communities in 1 region (Kaolack)	May 14-15, 2019
Data collection in 18 communities in 6 regions	May 20-31, 2019

Qualitative data collection with key stakeholders
In addition to the qualitative data collected in communities, Rapid Feedback MERL also conducted interviews with key project stakeholders at LPT, USAID, and MEN. The purpose of this data collection was to understand roles and responsibilities and coordination among the different project actors; the status of implementation of coaching activities; barriers and facilitators to the success of LPT's coaching model; and opportunities to ICT integration in coaching activities.

RAPID FEEDBACK MERL interviewed the following stakeholders:
- Aissatou Balde, LPT Chief of Party, 12/2016 to 06/2019
- Ciara Rivera Vazquez, LPT Senior Education Advisor
- David Boubane, LPT Coaching Lead
- Rokhaya Niang, Director of Programs

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[5] In some schools, the director was also the CI and/or CP teacher, which is why fewer than 18 teachers were interviewed.
[6] Some inspectors were responsible for more than one sampled school, which is why fewer than 18 inspectors were interviewed.

- Dethie Ba, LPT Senior Monitoring Evaluation and Learning Specialist
- David Bruns, USAID Senegal Director of Education Office
- Kadiatou Cisse-Abbassi, USAID Senegal Education Officer, COR for LPT
- Badara Sarr, USAID Senegal Education Evaluation Specialist, ACOR for LPT
- Hubert Ndecky, Inspecteur de l'enseignement élémentaire, MEN-DFC
- Cheikh Beye, Inspecteur de l'enseignement élémentaire, LPT POC at MEN DEE

Quantitative data collection

The primary sources of quantitative data for this study were the teacher and director SSME questionnaires that were administered as part of the EGRA data collection in 2017, 2018, and 2019.

Rapid Feedback MERL worked with LPT and EdIntersect to provide input on the content of the midline SSME teacher and director questionnaires to ensure that they captured the data necessary to answer our research questions. Specifically, Rapid Feedback MERL suggested revisions and additions to the questionnaires to capture the following outcomes:

- Teacher knowledge and self-reported use of LPT EGR instructional concepts and practices
- Teacher self-efficacy on teaching reading in national languages
- Teacher receipt of and quality of coaching received from director and from inspector
- Teacher mode and frequency of contact with director and with peers
- Director implementation of coaching

LPT and EdIntersect accepted the majority of these suggestions.

Most of the outcomes examined in this memo were from the EGRA midline data; however, Rapid Feedback MERL also analyzed relevant outcomes from the EGRA baseline and EGRA light data. In Table A.4 we show the school, director, and teacher characteristics of each of these samples.

Table A.4. Summary of school, teacher, and director characteristics in EGRA samples

	Baseline	EGRA Light	Midline
School			
Region (%)			
Diourbel	13.30%	0.00%	20.41%
Fatick	23.65%	32.21%	19.23%
Kaffrine	15.27%	21.15%	11.54%
Kaolack	18.72%	31.73%	17.46%
Louga	10.34%	0.00%	14.50%
Matam	18.72%	14.90%	16.86%
Urban (%)	11.33%		8.28%
Language of LPT instruction (%)			
Wolof	32.18%	45.19%	44.38%
Sereer	34.65%	25.48%	25.44%

Pulaar	33.17%	29.33%	30.18%
Director			
Female (%)	5.42%	1.92%	5.03%
Role (%)			
Director	97.54%	90.38%	93.49%
Assistant Director	2.46%	9.62%	4.44%
Interim Director			2.07%
Director-Teacher (LPT grade, %)		27.54%	29.88%
Number of years as director	7.68		7.89
Teacher			
Female (%)	36.76%	29.19%	28.51%
Age	34.81		36.47
Highest level of professional certification (%)			
None	9.12%		4.22%
CEAP	36.76%		29.92%
CAP	54.12%		65.06%
Grade(s) taught currently (%)			
CI only	40.00%		48.07%
CP only	39.12%		30.35%
CI and CP	20.88%		16.50%
Number of years teaching CI or CP	1.89	1.74	
Number of years teaching CI			1.79
Number of years teaching CP			1.40
Maternal language (%)			
Wolof			34.94%
Pulaar			27.11%
Seereer			29.72%
Other			8.23%
Sample size (School)	**203**	**208**	**338**
Sample size (Director)	**203**	**208**	**338**
Sample size (Teacher)	**340**	**209**	**498**

Source: 2019 EGRA SSME Teacher and Director Survey
Notes: Statistics shown are unadjusted means.

In addition to the EGRA SSME data, we also explored survey and classroom observation data collection through the Teacher KAP data collection in April 2019. These data provided important information on how well teachers understand and adhere to LPT best practices for early grade reading instruction.

In Table A.5 we show school and teacher characteristics for the Teacher KAP sample.

Table A.5. Summary of school and teacher characteristics in the Teacher KAP sample

Outcome	Mean
School	
Region (%)	
Diourbel	18.1%
Fatick	47.2%
Kaffrine	22.2%
Matam	12.5%
Type	
Classic	91.7%
Franco-Arabe	4.2%
Daara	4.2%
Language of LPT instruction (%)	
Wolof	51.4%
Sereer	36.1%
Pulaar	12.5%
Teacher	
Female (%)	29.2%
Age	36.83
Years of experience as a teacher	10.60
Maternal language (%)	
Wolof	41.7%
Pulaar	13.9%
Seereer	36.1%
Other	8.3%
Highest level of professional certification (%)	
None	6.9%
CEAP	29.2%
CAP	63.9%
Grade(s) taught currently (%)	
CI only	50.0%
CP only	31.9%
Multigrade	18.1%
Sample size (Schools)	**41**
Sample size (Teachers)	**72**

Source: 2019 Teacher KAP Survey
Notes: Statistics shown are unadjusted means.

Appendix B: Additional Teacher KAP findings

As described in the main body of the memo, findings from the Teacher KAP data show that teacher knowledge of key LPT instructional techniques varies by technique, and the majority of teachers have not mastered most techniques. In Table B.1 we present the full set of teacher knowledge results from the Teacher KAP data.

Table B.1. Teacher knowledge of key LPT instructional techniques (Teacher KAP data)

	Know…			
	Not at all	A bit	Mostly	Completely
The "I do, we do, you do" approach	1.4% (11.8%)	4.2% (20.1%)	25.0% (43.6%)	69.4% (46.4%)
The techniques for teaching pre-reading	1.4% (11.8%)	16.7% (37.5%)	31.9% (47.0%)	50.0% (50.4%)
The advantages of learning to read in a maternal language	1.4% (11.8%)	8.3% (27.8%)	44.4% (50.0%)	45.8% (50.2%)
The five components of teaching reading	0.0% (0.0%)	12.5% (33.3%)	45.8% (50.2%)	41.7% (49.7%)
The techniques for teaching word sounds	1.4% (11.8%)	11.1% (31.7%)	45.8% (50.2%)	41.7% (49.7%)
The techniques for teaching the syllabic approach to decode words	0.0% (0.0%)	13.9% (34.8%)	44.4% (50.0%)	41.7% (49.7%)
The necessary amount of time to dedicate to reading in class each day	1.4% (11.8%)	13.9% (34.8%)	44.4% (50.0%)	40.3% (49.4%)
The role of comprehension in learning to read	1.4% (11.8%)	13.9% (34.8%)	45.8% (50.2%)	38.9% (49.1%)
The role of modeling in teaching reading	1.4% (11.8%)	16.7% (37.5%)	43.1% (49.9%)	38.9% (49.1%)
The role of vocabulary in learning to read	1.4% (11.8%)	15.3% (36.2%)	47.2% (50.3%)	36.1% (48.4%)
The techniques to ensure that participation is 100% equitable between students of different sexes	2.8% (16.6%)	18.1% (38.7%)	44.4% (50.0%)	34.7% (47.9%)
How to teach in the national languages	1.4% (11.8%)	12.5% (33.3%)	51.4% (50.3%)	34.7% (47.9%)
The role of expressive reading for students who know how to decode	1.4% (11.8%)	18.1% (38.7%)	47.2% (50.3%)	33.3% (47.5%)
The techniques for teaching fluidity	0.0% (0.0%)	22.2% (41.9%)	45.8% (50.2%)	31.9% (47.0%)
The techniques to ensure that participation is 100% equitable between students of different backgrounds, physical capacities, or cognitive capacities	2.8% (16.6%)	23.6% (42.8%)	43.1% (49.9%)	30.6% (46.4%)
The link between teaching and learning in a national language and in French	1.4% (11.8%)	26.4% (44.4%)	45.8% (50.2%)	26.4% (44.4%)

The techniques to help a child who is already reading well advance further	2.8% (16.6%)	20.8% (40.9%)	50.0% (50.4%)	26.4% (44.4%)
The best practices for practicing reading at home	2.8% (16.6%)	23.6% (42.8%)	51.4% (50.3%)	22.2% (41.9%)
The tools for systematically testing the reading level of a student	6.9% (25.6%)	18.1% (38.7%)	54.2% (50.2%)	20.8% (40.9%)
The remediation techniques for helping a student who struggles with reading	4.2% (20.1%)	23.6% (42.8%)	51.4% (50.3%)	20.8% (40.9%)
The use of scaled books for students with different reading levels	5.6% (23.1%)	37.5% (48.8%)	37.5% (48.8%)	19.4% (39.9%)
The techniques for the continual and less formal evaluation of a student's reading level	4.2% (20.1%)	33.3% (47.5%)	50.0% (50.4%)	12.5% (33.3%)
Sample size (teachers): 72				

Source: 2019 Teacher KAP Survey

Notes: Statistics shown are unadjusted means. The table reports mean percentages for each variable, followed by standard deviations in parentheses. Sample sizes shown are for the full sample; some outcomes may have smaller sample size because of missing data. Teachers self-reported their level of knowledge of each concept.