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REPORT

2018 Early Grade Reading Monitoring Assessment in the Democratic Republic of Congo

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ACRONYMS

A!I	Activity 1 of the Accelerating Equitable Access to School, Reading, Student Retention, and Accountability, known as Accès, Lecture, Redevabilité et Rétention!
CENADEP	Centre National d'Appui au Développement et à la Participation Populaire
CFWPM	Correct Familiar Words Per Minute
CLPM	Correct Letters Per Minute
CNWPM	Correct Nonwords Per Minute
CWPM	Correct Words Per Minute
CRS	Accelerated Learning Center, known as Centre de Rattrapage Scolaire
DIF	Differential Item Functioning
EGRA	Early Grade Reading Assessment
EP	Public Primary School, known as Écoles Primaires
IPs	Implementing Partners
IRR	Inter-rater Reliability
MEPSP	<i>Ministère de l'Enseignement Primaire, Secondaire et Professionnel</i>
QCO	Quality Control Officer
RERA	Rapid Education Risk Analysis
SD	Standard Deviation
SES	Socioeconomic Status
SSME	Snapshot of School Management Effectiveness
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

In November 2018, Activity 1 of the Accelerating Equitable Access to School, Reading, Student Retention, and Accountability (A!1) project implemented an Early Grade Reading Assessment (EGRA) in its areas of intervention in order to monitor progress against its goal of increasing the number of improved readers. The study was designed to answer three research questions:

1. What are students' reading skills at the end of Grade 2 in public primary schools and learning centers in A!1 provinces in 2018?
2. How have students' reading skills changed in relation to assessments in 2015 and 2017?
3. What are the relationships between school and home factors and students' reading skills?

The EGRA was administered in three national languages and in French at public primary schools, known as *écoles primaires* (EPs), and accelerated learning centers, known as *centres de rattrapage scolaire* (CRSs). For the EPs, it was administered at the beginning of Grade 3 as a proxy for students' learning at the end of Grade 2. In the CRSs, it was administered at the beginning of Level 2 as a proxy for the end of Level 1, which is equivalent to Grade 2. Similar to the 2017 EGRA, this EGRA was administered in October 2018. The tool assessed students' and learners' reading competencies with seven subtasks:

- Letter Identification
- Familiar word reading
- Nonword reading
- Oral reading fluency
- Reading comprehension
- National language vocabulary
- French vocabulary

In addition to the EGRA, five Snapshot of School Management Effectiveness (SSME) tools were administered, including a student questionnaire, teacher questionnaire, school director questionnaire, school inventory, and classroom inventory.

During the 2018 Monitoring EGRA, 120 EPs and 1,169 students were assessed, as were 72 CRSs and 662 learners. Table I presents the numbers of EPs, CRSs, students, and learners reached in each A!1 EGRA administration.

Discussion

In light of the findings in this report, six key points are raised in the discussion section:

- **Students' and learners' reading levels are improving.** The "big story" from the 2018 EGRA is that, though some scores declined from 2017, overall performance maintained an upward trajectory from 2015 to 2018, including significant increases in mean scores and significant reductions in zero scores.
- **Kiswahili-phone provinces performed better than Ciluba- and Lingala-phone provinces.** While the purpose of this EGRA was not to compare performance across provinces, the results of the 2018 EGRA show that students and learners in Kiswahili-phone EPs and CRSs performed in general better than their peers in other provinces. Possible reasons for this include differing physical school conditions, unrest (Kasai Central and Oriental) and Ebola (Equateur), a high percentage of language mismatch in Lingala-phone provinces¹, use of French at home, and exposure to A!1 interventions. Only future

¹ See Report on Operations Research for Accelere! 1: *Sociolinguistic Mapping and Teacher Language Ability*

measures of student learning can confirm whether these trends will persist and shed further light on the enduring factors that enhance performance in Kiswahili language zones.

- **Near-universal declines in the proportion of students meeting benchmark raise questions about the fit between the benchmarks and these populations.** Given the overwhelming pattern of students and learners not meeting the benchmark levels set in the October 2017 benchmark-setting workshop should be revisited and benchmarks piloted.
- **Declines in performance on both vocabulary subtasks suggest the possibility that oral language development may be lagging.** Although students' and learners' performance on other EGRA subtasks generally improved from 2015 to 2018, scores for items on the national languages and French vocabulary subtasks declined in both EPs and CRSs. This pattern corroborates the findings of AII's *Sociolinguistic Mapping and Teacher Language Ability Study* which identified some differences between the standard and local forms of Kiswahili. This, in turn, informs how language impacts teachers' level of comfort in teaching Kiswahili and students' ability to understand the standard Kiswahili (Lualaba and Haut-Katanga). In areas assigned Lingala as language of instruction there are vast differences between languages. A significant percentage of students and teachers in rural Sud Ubangi speak Ngbaka, a non-Bantu language with little similarity to Lingala and in Equateur students speak Lokondo, a language sharing some lexical similarities with Lingala but still a language on its own. This indicates children are learning oral and written language skills in a second language whereas the AII program design is based on the national reading and writing program which in turn assumes that most children and teachers speak and understand the national languages assigned to their province. Given the critical role language comprehension and vocabulary plays in learning to read, this pattern also raises questions as to whether other EGRA scores might be higher if children were to learn in a language they speak and understand and had stronger vocabulary skills overall.
- **Accounting for the difference in performance between CRSs and EPs.** As has been found in other AII monitoring exercises, CRSs tend to perform significantly better than do EPs. This might be due to factors such as student age, motivation to attend school in order to re-enter the formal system, parental encouragement of their children's attendance, or management of CRSs compared with EPs. An inventory of these and other factors could shed light on why CRSs tend to perform better as well as which aspects may be transferrable to EPs in order to improve their performance as well.
- **Limited information from correlations.** Although several SSME tools were used to capture contextual factors at home and at school that may play a role in children's learning, few correlations were found. Factors such as teachers' attendance at trainings or reading at home were found to be positively correlated with stronger EGRA outcomes in some instances, but these patterns were not universal. Researchers' inability to identify changes or links may be due to the sample size or the nature of the questions asked in the SSME tools.

Recommendations

Recommendations are presented in two sections: ones that can be acted upon with the time and resources available in Year 5 of AII, and ones that go beyond Year 5, to be considered by USAID, the Ministry, and Implementing Partners (IPs) for future programming. This section also draws upon recommendations made as a result of other data collected on fidelity of implementation (FOI), qualitative interview data, and the Sociolinguistic Mapping and Teacher Language ability study. Note that while Year 5 targets a different population from Years 1 to 4, it is assumed that children in private schools will experience similar challenges to their peers in public schools, and thus the following recommendations will be relevant for Year 5.

Recommendations for AII Year 5:

- I. **Remove the vocabulary subtasks from the Year 5 EGRA baseline but continue to monitor the teaching of vocabulary.** Students' poor performance on the vocabulary subtasks over time was found to run contrary to trends on all other subtasks, which raises

questions about the nature of the vocabulary subtask. Vocabulary is inherently difficult to assess for a variety of reasons, including regional variations in vocabulary, pronunciation, and meanings, etc. and for this reason, has been removed from EGRAs elsewhere. Nevertheless, vocabulary acquisition is foundational to early grade literacy acquisition. It is therefore recommended that A!I remove the vocabulary subtasks from the Year 5 EGRA baseline but continue to reinforce best practices in teaching vocabulary through project monitoring and FOI activities.

2. **Add French subtasks to the Year 5 EGRA baseline.** Though school directors routinely reported that their schools are using the national curriculum in their schools, which includes the use of national languages in the teaching of reading, A!I lacks sufficient information to know the extent to which actual practices are based solely on instruction in national language, whether French is used exclusively, or whether children learn with a mix of the two. To ensure that students' ability to read is captured in either language, A!I should consider testing in both national languages and French.
3. **Emphasize key instructional strategies in the trainings.** Based on the 2018 EGRA findings that student reading ability drops off with familiar word reading, decoding (invented word reading), fluency, and comprehension, A!I face-to-face trainings and school directors' ongoing support to teachers via observations and feedback should reinforce the importance of student practice in applying these skills.
4. **Add time to the vocabulary-building activities and word explanations in the teacher guides.** The TLMs were designed based on the national language policy that assumes that children understand and speak the standard national languages assigned to their province. However, these EGRA results and the findings of the Sociolinguistic Mapping and Teacher Language Ability study lead us to conclude that this is not necessarily the case. For example, 2017-2018 fidelity of Implementation data showed that teachers spent more time on average on the vocabulary-building activities than the actual time allotted in the teacher's guide. Qualitative data cites teachers stating that they don't feel they have enough time to define all the new words needed for their students to understand the read-aloud text. Teachers also indicated that they themselves struggle with explaining new words. Taking this data together, it is recommended that A!I add time to the vocabulary activities in the lesson plans and include word definitions to better assist teachers' explanation of unfamiliar words.
5. **Link EGRA and fidelity of implementation data in order to identify A!I intervention components most strongly associated with improved reading.** If A!I were to conduct an EGRA end-line and FOI in the same schools A!I would be able to test its theory of change—that is, implementation and outcome data could be linked in order to measure the extent to which A!I strategies were associated with the intended outcome of improved reading. Note that this type of analysis would only possible if an EGRA end-line is conducted, which is not currently planned.

Recommendations for consideration by USAID, the Ministry and IPs for future programming

6. **Review and update the benchmarks.** Convene key stakeholders to review the results of these EGRAs, and, in light of these and any other EGRAs conducted in the DRC over the past few years—including those through Project PAQUE—consider the relevance of the benchmarks and strategies to validate them. For instance, strategies might include a review of a broader range of data sets, piloting, and expert review using methods such as social moderation—a process currently being piloted by USAID for setting global benchmarks in reading and math.
7. **Engage the government and stakeholders in dialogue around the language of education policy and implications for training and TLMs.** Future programs can initiate dialogue about adding flexibility in the use of language in the education policy. For example, majority Ngbaka speaking schools could employ existing Ngbaka reading materials to teach reading skills (materials already available in 50 schools in Sud Ubangi). In language

mismatch cases, scripted lesson plans for Grade 1 and 2 could be considered as guides rather than prescribing the materials to be used. As the goal is for children to learn the alphabetic principles in a language they understand first before transferring it to reading in other languages, experts and the ministry should devise and implement strategies on how to support teachers and learners who struggle to teach and learn in the assigned national languages given the difference with the spoken language.

8. **Provide teachers with more in-depth training in the “standard” national language.** In light of the poor performance of students on the vocabulary tasks over time and teachers’ reported difficulties with teaching and understanding the standard national languages, partners should examine strategies to support teachers in their acquisition of the “standard” national languages, especially for the provinces assigned to Lingala and Kiswahili. Schools should also be provided with dictionaries written in the standard national languages to provide official definitions, spellings, and word feature information where possible (e.g., etymologies, synonyms).
9. **Explore which aspects of CRSs can be applied to EPs.** Study—formally or informally—how CRSs operate in comparison to EPs to more fully understand why learners in CRSs perform better than their counterparts in EPs.

Results for Research Question 1: Performance on the 2018 EGRA

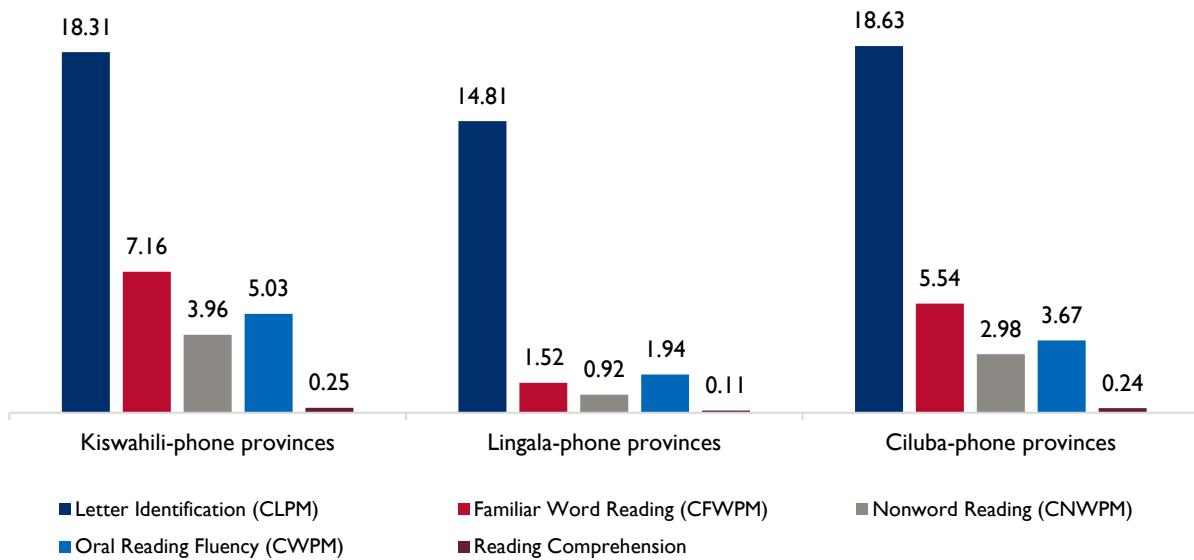
EPs

In general, students in Kiswahili-phone provinces posted higher mean scores and lower proportions of zero scores than students in the other two language zones²; students in Lingala-phone zones generally posted lower mean scores, and higher proportions of zero scores, than the other two provinces. Across language zones, EP students showed some knowledge of letter sounds or names but performed poorly on familiar word reading and nonword reading. Fluency was also low at two and five correct words per minute, and comprehension was nearly nonexistent, with children unable to answer on average even one question out of five correctly. For example, in Figure 1, students in Kiswahili-phone provinces were able to answer, on average, one-fourth of one question correctly out of five:

² The DRC’s language in education policy assigns national languages to specific provinces. Kiswahili is assigned to Lualaba, Haut-Katanga, Sud Kivu, and Nord Kivu; Lingala is assigned to Sud Ubangi and Equateur; Ciluba is assigned to Kasai Central and Kasai Orientale.

“Language zones” refer to these assignments. However, it is important to note that not all people residing in these provinces speak the national language assigned to their province. Therefore, it cannot be assumed that national language assignments are equal to a child’s mother tongue. In 2017-18, AII conducted a Sociolinguistic Mapping and Teaching Language Ability study to bring to light the realities of the languages spoken by teachers and students in these provinces and is referenced in this report.

Figure 1: 2018 EGRA Mean Scores on Selected Subtasks, EPs³



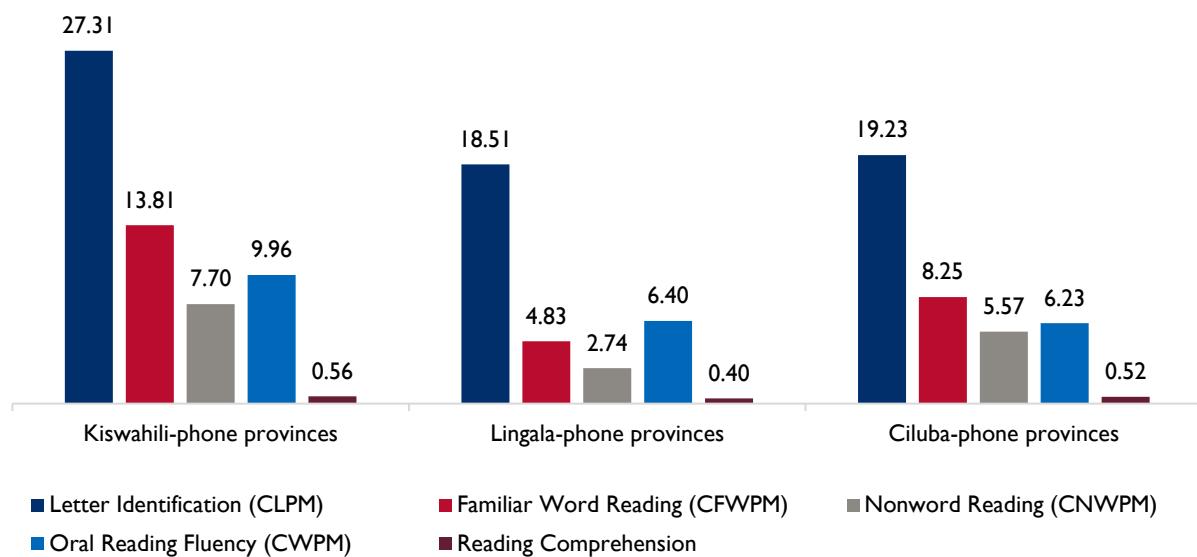
In terms of benchmarks, some zero score targets (reduction in children unable to answer a single item correctly) were met in 2018, including letter identification in Ciluba-phone and Lingala-provinces, familiar word reading in Ciluba- and Kiswahili-phone provinces, and oral reading fluency in Kiswahili-phone provinces. However, no language group met the performance benchmarks set by AII and the Ministry in letter identification, familiar word reading, oral reading fluency, or reading comprehension. In general, boys and girls performed similarly across language groups and subtasks, with some exceptions.

CRSs

As with students' performance in EPs, learners' performance in CRSs was stronger in the letter/sound identification subtask than in familiar word reading, nonword reading, oral reading fluency, or comprehension. And while mean scores for comprehension were on average higher for CRSs learners than for their counterparts in EPs, learners in CRSs still struggled with comprehension, answering on average less than one question correctly out of five (Figure 2).

³ Throughout this report, mean scores for subtasks are presented in two ways: as timed and untimed tasks. Timed tasks are presented in terms of number of items correctly performed per minute. For example, letter identification is presented as correct letter sounds per minute (CLPM), nonword reading as correct nonwords per minute (CNWPM), familiar word reading as correct familiar words per minute (CFWPM), and oral reading fluency as correct words per minute (CWPM). Untimed tasks include vocabulary National Languages and French, where the number of words correctly identified is reported, and reading comprehension, where the number of questions answered correctly out of five is reported.

Figure 2: 2018 EGRA Mean Scores on Selected Subtasks, CRSs



In contrast to EPs, where no language group met performance benchmarks on any subtask, learners in CRSs met the benchmarks for the oral reading fluency and familiar word reading subtasks in Ciluba- and Kiswahili-phone provinces; and for the letter identification subtask in Kiswahili-phone provinces. Zero score targets were also met by CRS learners on the letter identification, familiar word reading, and oral reading fluency subtasks in Ciluba-phone and Kiswahili-phone provinces and on the letter identification subtask in Lingala-phone provinces.

In CRSs, boys had significantly higher scores than girls on four subtasks in Kiswahili-phone provinces and on five subtasks in the Ciluba-phone provinces. In the Lingala-phone provinces, boys' and girls' performances were comparable on most subtasks.

Results for Research Question 2: 2018 Performance Compared to Earlier Years

Note: The proportion of A!I schools in each sample population (2015, 2017, and 2018) varied slightly (see Annex F). Moreover, some EGRA items were found to be problematic in 2018 and therefore removed from the analysis. Year-to-year results therefore represent slightly different populations and tests and, except where significance of difference analyses are presented, are not directly comparable.

Signs of progress

From 2015 to 2018, EP students' scores increased significantly on all subtasks in Ciluba- and Kiswahili-phone provinces, except on vocabulary. During the same period, the proportion of EP students with zero scores – where they were unable to answer a single question correctly on a subtask – declined significantly in Ciluba- and Kiswahili-phone provinces.

EPs

From 2015 to 2018, EP students' scores increased significantly on all subtasks except for vocabulary in Ciluba- and Kiswahili-phone provinces. However, their performance on vocabulary declined in most cases over this period (Table 1). Note that while Kiswahili interventions were rolled out in Year 1 and Ciluba and Lingala grade 1 in Year 3, A!I interventions for grades 2 and 3 were only rolled out in Ciluba and Lingala-phone provinces in Year 4 (2018-2019); thus, significant gains associated with A!I would not be expected in the Lingala-phone provinces.

Table 1: Significant Differences in EGRA Subtask Mean Scores, EPs

Subtask	Ciluba-phone provinces	Kiswahili-phone provinces	Lingala-phone provinces
	2015–18	2015–18	2015–18
Letter identification (CLPM)	↑	↑	↑
Familiar word reading (CFWPM)	↑	↑	
Nonword reading (CNWPM)	↑	↑	
Oral reading fluency (CWPM)	↑	↑	
Reading comprehension (correct out of five)	↑	↑	
National language vocabulary 1 (pointing to body parts)			↓
National language vocabulary 2 (placing an object)			↓
National language vocabulary 3 (naming common objects)	↓	↓	↓
French vocabulary 1 (pointing to body parts)		↓	↓
French vocabulary 2 (placing an object)	↓	↓	
French vocabulary 3 (naming common objects)		↓	

An up arrow ↑) indicates a statistically significant increase in the mean score difference across years of evaluation. A down arrow ↓) indicates a statistically significant decrease in the mean score difference across years of evaluation. Where there is no arrow, no statistically significant difference was found.

Similarly, the proportion of EP students unable to answer a single item correctly on a subtask—known as “zero scores”—declined significantly in Ciluba- and Kiswahili-phone provinces; the only significant increase in the proportion of zero scores was on the oral reading fluency subtask in the Lingala-phone provinces.

From 2015 to 2018, the proportion of EP students meeting benchmark increased on all subtasks except vocabulary in the Ciluba- and Kiswahili-phone provinces, but not in the Lingala-phone ones. Over time, gender-based performance patterns in EPs varied. In Kiswahili-phone provinces, girls significantly outperformed boys in 2017 and 2018 on three subtasks, while in Ciluba- and Lingala-phone provinces, boys outperformed girls on most subtasks in 2017 and 2018. However, in Ciluba-phone provinces, girls made greater improvements than did boys on the letter/sound name identification subtask and improved markedly on the familiar word reading subtask while boys' scores declined.

CRSs

As a reminder, CRS data were collected for the first time in Ciluba-speaking provinces in 2018, thus comparisons to prior years are only presented for CRSs in Kiswahili-phone and Lingala-phone provinces.

From 2017-2018, mean scores in CRSs only increased in one instance: on the letter identification subtask in the Lingala-phone provinces. All other mean scores remained constant represented by the blank cells in Table 2 or declined from 2017-2018 in Kiswahili-phone and Lingala-phone provinces.

Table 2: Significant Differences in EGRA Subtask Mean Scores, CRSs

Subtask	Kiswahili-phone provinces	Lingala-phone provinces
	2017–18	2017–18
Letter identification (CLPM)		↑
Familiar word reading (CFWPM)		
Nonword reading (CNWPM)	↓	
Oral reading fluency (CWPM)	↓	
Reading comprehension (correct out of five)	↓	
<hr/>		
National language vocabulary 1 (pointing to body parts)		↓
National language vocabulary 2 (placing an object)	↓	
National language vocabulary 3 (naming common objects)	↓	↓
<hr/>		
French vocabulary 1 (pointing to body parts)	↓	
French vocabulary 2 (placing an object)		
French vocabulary 3 (naming common objects)	↓	

An up arrow ↑) indicates a statistically significant increase in the mean score difference across years of evaluation. A down arrow ↓) indicates a statistically significant decrease in the mean score difference across years of evaluation. Where there is no arrow, no statistically significant difference was found.

The proportion of zero scores at CRSs remained the same from 2017 to 2018 in Kiswahili-phone provinces, but they declined in Lingala-phone provinces on two subtasks—familiar word reading and oral reading fluency.

Finally, in terms of gender, results in CRSs were mixed over time. In Kiswahili-phone provinces, boys scored lower than girls in 2017 on oral reading fluency and letter identification, then scored higher than girls in 2018 on these tasks. In Lingala-phone provinces, girls scored lower than boys in 2017 on letter identification, oral reading fluency, and reading comprehension, then in 2018, caught up with or surpassed boys on these tasks.

Results for Research Question 3: Relationships between Reading Performance with Home and School Factors

When EGRA results were analyzed in the context of results from the SSME tools, several findings emerged:

- **Socioeconomic status:** In 2015 and 2017, students with higher socioeconomic status (SES) performed significantly higher on some of the EGRA subtasks than did their peers; by 2018, these differences had disappeared.
- **Parents who read:** Some relationships were found between higher EGRA scores and parents who read—specifically, fathers of students attending Kiswahili-phone EPs and the mothers of students attending Lingala-phone CRSs. The pattern, however, was not consistent across subtasks or provinces.
- **Language at home:** Students who reported that they spoke French at home generally outperformed their peers who said they did not. Note that the same pattern was found in A!I's quarterly assessments, but only in Kiswahili-phone provinces.⁴
- **Reading at home:** Students who said they read aloud at least once a week at home overwhelmingly performed significantly higher on all EGRA subtasks than those who said they never read at home. The only exception were learners attending Kiswahili-phone CRSs.
- **School fees:** In most cases, no statistical differences were found in EGRA scores between students who reported paying school fees and those who did not.
- **Safety:** While most children in Lingala- and Kiswahili-phone provinces reported feeling safe at school and on their way to school, most students in Ciluba-phone provinces reported

⁴ See for example the report [Evaluation: Quarterly Assessment, Third Trimester 2017-18](#).

feeling unsafe at school. This finding is in keeping with the results of the A!I RERA conducted in Ciluba-phone provinces by A!I in 2018.⁵ Interestingly, no statistically significant relationships were found between the perceptions of teachers and school directors about safety and their students' performance.

- **EGRA scores and A!I training:** A positive correlation was found between students' scores in Kiswahili-phone EPs and school directors who reported high levels of participation in A!I trainings. However, the same pattern was not found in CRSs in that province or in either EPs or CRSs in other participating provinces.
- **EGRA scores and instructional A!I materials:** In EPs in Lingala-phone provinces, a correlation was found between teacher resources in the classroom and EGRA scores. However, no correlations were found in other groups. Perhaps this is not surprising, since resources were reportedly scarce in schools: the average EP had less than one in four A!I resources—learner notebooks and booklets, a French oral reading poster, and letter strip.
- **School conditions:** In Kiswahili-phone CRSs, a moderate correlation was found between learners' EGRA scores and classroom conditions and learning resources. However, this relationship was not observed in other groups.

⁵ See [*Kasaïs Rapid Education Risk Analysis Report, A!I. Preliminary draft submitted August 17, 2020*](#). NB: This is an internal version; a final version approved by USAID was to follow.

INTRODUCTION

Activity 1 of the Accelerating Equitable Access to School, Reading, Student Retention, and Accountability (A!1) is a project funded by the United States Agency for International Development (USAID). It has three intended results:

- Result 1: Increase equitable access to a quality education environment by lowering financial barriers to formal and nonformal education and improving school safety.
- Result 2: Improve education quality by supporting the implementation of an evidence-based literacy program in Grades 1 through 4 in which children are taught to read first in local languages and then transition to French.
- Result 3: Improve governance and accountability of stakeholders by increasing the information about education access, safety, and quality available to communities and supporting them to hold the schools accountable for service delivery.

The A!1 intervention targeted schools in eight provinces of DRC—the Ciluba-phone provinces of Kasai Central and Kasai Oriental; the Kiswahili-phone provinces of Haut-Katanga, Lualaba, North Kivu, and South Kivu; and the Lingala-phone provinces of Equateur and Sud-Ubangi.⁶ A!1 intervened in two types of schools—public primary schools, known as *écoles primaires* (EP), and accelerated learning centers, known as *centres de rattrapage scolaire* (CRS).

In June 2017, A!1 and partners from USAID and Activity 3 of the Accelerating Equitable Access to School, Reading, Student Retention, and Accountability program decided that A!1 would conduct two monitoring Early Grade Reading Assessments (EGRAs) to inform project activities internally and to share evidence of progress with stakeholders. As part of an agreement,⁷ the parties decided A!1 would administer the EGRAs as outlined in Table 3⁸ to track the extent to which A!1 was making progress toward the goal of increasing the number of improved readers. School-to-School International, serving as a subcontractor to the implementing partner Chemonics International, Inc., led the administration of the assessments in 2017 and 2018.

Table 3: EGRA Rollout Plan by School Year

	2015–2016	2016–2017	2017–2018	2018–2019
A!1 intervention rollout		Only Kiswahili-phone provinces Kiswahili: Haut-Katanga, Lualaba, North Kivu, and South Kivu	All A!1 targeted provinces Kiswahili: Haut-Katanga, Lualaba, North Kivu, and South Kivu Lingala: Equateur and Sud-Ubangi Ciluba: Kasai Oriental and Kasai Central	All provinces
EGRA Type	Baseline	None	2017 Monitoring EGRA	2018 Monitoring EGRA

⁶ Half the subdivisions in each province were targeted for A!1 interventions.

⁷ A memorandum summarizing the agreement was sent to USAID on June 28, 2017.

⁸ Partners also agreed that external parties would implement an impact evaluation EGRA in the fall of 2019 to measure the project's impact on reading outcomes. However, this EGRA was canceled because of A!1's early closeout in April 2019.

METHODOLOGY

Sample

In order to make it possible to compare results across timepoints, the 2018 Monitoring EGRA followed the same random sampling approach as the one used for the 2015 and 2017 EGRAs.⁹ This included the assessment of Grade 3 students in EPs and Level 2 learners in CRSs at the beginning of their school year—October to December—as a proxy measure for children’s performance at the end of Grade 2 and Level 1, respectively. Ten children or youth—five boys and five girls—were randomly selected in each EP and CRS.

Samples were drawn to be able to generalize results to all students or learners from A!I-supported EPs or CRSs in a given language zone—e.g., all A!I students in Sud-Ubangi and Equateur (Lingala). Power calculations showed that results can be generalized with a 5% margin of error, assuming a 95% confidence interval, if 40 EPs or 24 CRSs were chosen in each language zone. These were the numbers selected for the 2018 EGRA.

EPs and CRSs were sampled according to different rules. The EPs were selected first by identifying schools assessed at baseline where A!I eventually intervened, then randomly sampling from that list. In each language area, fewer than 40 schools included in the baseline had been supported by A!I, so additional schools were sampled to reach 40 per language—five for Ciluba, seven for Lingala, and ten for Kiswahili (see Annex H for a summary of additional EPs needed to complete the 2018 sample). For the CRSs, the ones participating in the 2017 EGRA also participated in the 2018 EGRA in the Kiswahili- and Lingala-phone provinces. In Kasai Oriental and Kasai Central (Ciluba-phone) provinces, CRSs were selected to be assessed for the first time; the 2018 EGRA was to serve as their baseline.

In all, 120 EPs and 72 CRSs were included in the 2018 EGRA sample. Table 4 presents a summary of the samples from 2015, 2017, and 2018:

Table 4: Number of EPs, CRSs, G2 Students¹⁰ and Level 1 Learners Reached in Each EGRA

Language/ Province	2015				2017				2018			
	EPs	EP students	CRSs	CRS learners	EPs	EP students	CRSs	CRS learners	EPs	EP students	CRSs	CRS learners
Ciluba												
Kasai Oriental	40	387	-	-	-	-	-	-	40	233	24	106
Kasai Central*	60	602	-	-	-	-	-	-	40	160	24	122
Kiswahili												
Haut-Katanga	80	772	-	-	266	5	41	-	40	263	24	50
Lualaba			-	-	130	1	10	-		130		2
North Kivu	-	-	6	60	-	-	9	76	-	-		80
South Kivu	-	-	6	60	-	-	9	82	-	-		88
Lingala												
Equateur	60	586	-	-	-	16	153	-	40	206	24	147
Sud-Ubangi	-	-	-	-	-	8	71	-		177		67
TOTAL	240	2347	0	0	396	0	433	120	1169	72	662	

* In the baseline 2015 EGRA report, “Kasai-Central” was called “Kasai-Occidental.” In 2015, the province split from one into Kasai-Central and Kasai-Oriental.

Student and learner ages

⁹ The baseline used a three-stage sampling process: 1) provinces and subprovinces were purposively selected; 2) EPs or CRSs within those subprovinces were randomly selected; and 3) students within those schools were stratified by sex, then randomly selected.

¹⁰ Grade 3 students in EPs were assessed at the beginning of the school year as a proxy for end-of-Grade 2.

Sampled EP students' average age varied slightly across provinces. The average age for students in Kiswahili-phone provinces was 8.83 years old; in Lingala-phone provinces, it was 9.71 years old; and in Ciluba-phone province, the average age was 9.51 years old. Students' self-reported age ranged from 6 to 21 years old, indicating a wide age span of students in the classrooms, as well as the placement of above-average-age students in the conventional EPs rather than into accelerated learning programs, such as CRSs. The average expected age of students at the beginning of Grade 3 is eight years old.

Ages of CRS learners averaged 11.52 years old in Kiswahili-phone provinces, 11.27 years old in Lingala-phone provinces, and 10.67 years old in Ciluba-phone province, with a wide range of ages reported (6 to 22 years old).

RESEARCH QUESTIONS AND STUDY DESIGN

The purpose of the 2018 Monitoring EGRA is to assess the extent to A!I was making progress toward the goal of an “increased number of improved readers” across the provinces where the activity was implemented. Specifically, the study addresses three research questions:

1. What are students' reading skills at the end of Grade 2 in public primary schools and learning centers in A!I provinces in 2018?
2. How have students' reading skills changed in relation to assessments in 2015 and 2017?
3. What are the relationships between school and home factors with students' reading skills?

This EGRA was conducted in three languages:

- Ciluba in Kasai Central and Kasai Oriental provinces;
- Kiswahili in Lualaba, Haut-Katanga, North Kivu, and South Kivu provinces; and
- Lingala in Equateur and Sud-Ubangi provinces.

Five instruments from the Snapshot of School Management Effectiveness (SSME) package were also administered, including a student questionnaire, teacher questionnaire, school director questionnaire, school inventory, and classroom inventory.

To address each of the research questions, the 2018 Monitoring EGRA used a cross-sectional design, collecting data from students at the same grade level as those assessed in 2015 and 2017. Data were collected from two school types: *écoles primaires* EP, or public primary schools and *centres de rattrapage scolaire* CRSs, or accelerated learning programs. For EPs, children are referred to as students, while in CRSs, they are referred to as learners. The assessment was administered at the beginning of the 2018 school year in October to Grade 3 students in EPs and Level 2 students in CRSs.¹¹ The results serve as a proxy of performance at the end of Grade 2 or Level 1, respectively.¹²

This report presents EGRA and SSME results from the 2018 Monitoring EGRA and compares them to the results of the 2015 and 2017 EGRAs. For the EPs, the 2015 assessment served as a baseline while the 2017 assessment served as a baseline for CRS schools in Kiswahili- and Lingala-phone provinces. Because the assessment in CRSs in Ciluba-phone provinces was administered for the first time in 2018, that assessment serves as that group's baseline. The numbers of students participating in each EGRA administration are presented in Table 5.

¹¹ Level 2 in CRSs corresponds to Grades 3 and 4 in EPs.

¹² Level 1 in CRSs corresponds to Grades 1 and 2 in EPs.

Table 5: Student/Learner Sample by EGRA Tool and School Type in Each Year of Data Collection

Tool	School Type	2015 Assessment	2017 Assessment	2018 Assessment
Ciluba EGRA	EP	337	0	393
	CRS	0	0	228
Kiswahili EGRA	EP	288	396	393
	CRS	0	209	220
Lingala EGRA	EP	230	0	383
	CRS	0	224	214
Total		855	829	1831

The results are presented by the language of the EGRA and school type. Results are presented for seven subtasks: letter identification, familiar word reading, national language vocabulary, French vocabulary, nonword reading, oral reading fluency, and reading comprehension.¹³

To answer the first research question concerning students' reading ability in 2018, three types of results are presented: students' and learners' mean scores, the percentage of students and learners unable to answer even one question correctly—known as zero scores—and the percentage of those students and learners who met project benchmark for select subtasks. Results from 2018 are also presented by gender and province.

To answer the second research question concerning change over time, EGRA results for each subtask are compared over time, including the 2015 and 2017 administrations. Changes are also presented by gender and province.

To answer the third research question concerning factors associated with student performance, relationships between EGRA results and children's environments at home and school are examined to determine which contextual factors may be most strongly associated with success in reading.

Weights

In studies such as this EGRA where results are generalized, results must be weighted in order to accurately reflect the representativeness of the population based on probability of selection. For example, if ten students are selected from a class of ten, each has 100% chance (probability) of being selected. If ten students are selected from another class of 100, each has a 10% chance of being selected. Scores from the first group would represent that group completely, while scores from the second group would only be 10% representative, introducing bias into the generalization. To correct for this situation, weights are computed – that is, students who are less likely to be selected are given a weight larger than 1 and students more likely to be selected are given a weight smaller than 1.

For the 2018 EGRA, weights were computed using information provided by A!I's Monitoring and Evaluation team. The sample units were selected using a three-stage model where first, the probability that schools would be selected was calculated, then classrooms within schools, and finally students or learners within schools. Sampling weights were created for each of these stages; then

¹³ On the vocabulary 1 subtask, students were orally asked to point to various parts of their bodies. On the vocabulary 2 subtask, students were orally asked to place a pencil in various places relative to their bodies or other objects. On the vocabulary 3 subtask, students were shown pictures of common objects and asked to say the name of each; this final part included eight items. These 3 vocabulary subtasks were administered in national language and then in French.

the three weights were multiplied to derive a final weight. These calculations were made based on enrollment data from the previous academic year, which was the most accurate A!I enrollment data available at the time of the EGRA.¹⁴

Tools

Tool Development

The tool development process started with the review of the Ciluba EGRA instrument, which was used in the 2015 baseline but not in the 2017 administration. EGRA protocols and individual items were reviewed, and an A!I language expert made recommendations to revise the language in some subtasks. A!I Result 2 team then reviewed and approved these recommendations. Tools in all languages were revised accordingly. See Annex G for changes made to the tools and processes used to arrive at these decisions.

The 2018 EGRA consisted of seven subtasks, each designed to test an early grade reading skill. All subtasks measured the number of items correctly answered by the child; additionally, four subtasks were timed to measure fluency. Table 6 summarizes each of these tasks:

Table 6: Descriptions of EGRA Subtasks

Subtask	Skill	The child is asked to...	Type
Letter Identification	Knowledge of the alphabet and the names and sounds of both uppercase and lowercase letters	...say the names of letters or the sounds of the letters while looking at a printed page of 100 uppercase and lowercase letters in random order.	Timed
Familiar Word Reading	Ability to read a randomly presented list of frequently occurring words by sight or automatically	...read a list of 50 common words.	Timed
Nonword Reading	Alphabetic principle, including letter-sound correspondence and fluency, as well as automatic decoding	...read a list of 50 nonwords printed on a page. Words were constructed from actual orthography but were not real words.	Timed
Oral Reading Fluency	Fluency, or automatic word reading in context	...read aloud a grade-level appropriate short story printed on a page. The Kiswahili story included 50 words, while the Ciluba and Lingala stories included 47 and 46 words, respectively.	Timed
Reading Comprehension	Comprehension	...verbally respond to up to five questions that the assessor asks about the short story.	Untimed
National Language Vocabulary Ciluba, Kiswahili, or Lingala)	Vocabulary and oral language vocabulary	...point to a common object in the environment when told the name of that object orally; ...place an object in a location as instructed; ...verbally identify the name of an object when shown an image of that object on a piece of paper.	Untimed
French Vocabulary	Vocabulary and oral language vocabulary	...point to a common object in the environment when told the name of that object orally; ...place an object in a location	Untimed

¹⁴ Data from the current school year are not available from A!I until months after EGRA data are collected; if they were used, reporting would be delayed, and it would be difficult to use data in real time for monitoring purposes. Hence, weights for the 2017 and 2018 Monitoring EGRA were calculated using enrollment data from the previous school year—2016–2017 and 2017–2018, respectively. Note that for the baseline, it is not known which year's enrollment figures were used to calculate weights.

Subtask	Skill	The child is asked to... as instructed; ...verbally identify the name of an object when shown an image of that object on a piece of paper.	Type

Minor revisions were made to all five SSME tools—the student, teacher, and school director questionnaires as well as the school and classroom inventories.

Quality of Assessment Tools

The tools used in the 2018 were found to have strong psychometric properties, including high internal consistency (Cronbach's alpha) and reliability across students assessed (item-total correlations). See Annex A for details as well as references to the quality of the tools used in the 2015 and 2017 assessments.

Data Collection

Training for data collection occurred in two stages—a training of master trainers and quality control officers (QCOs) in Kinshasa, followed by five concurrent trainings for enumerators across the country. AII organized the trainings with the data collection firm Centre National d'Appui au Développement et à la Participation Populaire (CENADEP).

The five-day training for master trainers took place from September 24 to 28, 2018. Participants prepared to serve as master trainers during enumerator trainings and QCOs during data collection. They learned about EGRA and SSME protocols, practiced presenting training sessions, and completed three EGRA assessor accuracy assessments and one quiz. Some master trainers took on greater responsibilities than others for the ensuing enumerator trainings because of better mastery of the material and greater ease and experience as facilitators. Master trainers and other personnel then departed Kinshasa to lead five concurrent seven-day enumerator trainings.

Enumerator trainings took place in Gomena and Lubumbashi from October 1 to 9, 2018, and Mbandaka, Mbuji-Mayi, and Kananga from October 2 to 10, 2018. The training in Lubumbashi included enumerators from four provinces—Haut-Katanga, Lualaba, North Kivu, and South Kivu. Enumerator training topics included how to administer EGRA and SSME tools using tablets, how to sample students, and how to administer EGRA for purposes of inter-rater reliability (IRR). Protocol for each EGRA subtask was presented in French and practiced in either Ciluba, Kiswahili, or Lingala as appropriate for that province. Enumerators participated in three assessor accuracy exercises to determine their abilities on each EGRA subtask and took a quiz to gauge their knowledge and retention of the topics covered. They also gained hands-on EGRA experience by administering EGRA to students during two days of practice at schools not included in the sample. Further information on the data collection process can be found in the final reports submitted by CENADEP.

Each data collection team was composed of three members—two enumerators and one team leader. Each QCO supervised multiple teams and visited them in the field to ensure they were administering EGRA and SSME tools properly. After each school visit, team leaders communicated with QCOs and provincial supervisors to troubleshoot any issues encountered and uploaded a detailed report summarizing the number of EGRA and SSME surveys administered and any issues encountered. QCOs relayed any important issues needing follow-up to the AII team. Every day the AII team confirmed the number of records in each EGRA and SSME dataset matched the number of records teams reported collecting. They also sent questions to QCOs about any data discrepancies or issues observed that required improvement or resolution.

Data Analysis

EGRA data were cleaned and analyzed with Microsoft Excel, Stata, and IBM SPSS Statistics software. Select items were removed from all datasets during cleaning based on the results of DIF analysis (see Annex G for more detail). For each subtask, decision rules were applied to assess whether outliers would need to be removed, but after consideration of the reasonable ranges in the data, no outliers were removed.

Mean scores and their relevant standard deviations (SD) and confidence intervals as well as zero scores are reported for each subtask.¹⁵ Results were also disaggregated by gender and province. Differences in mean scores by timepoint, province, and gender were analyzed for statistical significance using analysis of variance.¹⁶ Differences in the proportion of zero scores were tested for statistical significance using chi-square tests.¹⁷ Results with statistically significant differences, with p-values less than 0.05, are noted with superscript notations.

Limitations

The following are the factors that need to be considered when interpreting EGRA results from the 2015, 2017, and 2018 administrations:

EGRA vs. curriculum-based assessment. EGRA covers generic reading skills expected of students at the end of Grade 2, but it does not capture skills specific to the curriculum as introduced by A!I. To capture the latter, A!I conducts quarterly assessments in which students and learners are assessed on knowledge or skills they are expected to have acquired that quarter, thus providing A!I with a measure of content mastery. In contrast, EGRA provides a picture of general reading skills acquired over time.

1. **Leakage.** To ensure the reliability of results, common assessment practice calls for test security so that test contents cannot be “leaked” to future test-takers, thus biasing results. This can be a problem when tests are administered on paper. However, because the 2015, 2017, and 2018 EGRAs were administered electronically on tablets and because printed stimuli for students were bundled and removed after each assessment, the likelihood of leakage is low.
2. **Intervention time.** Across EGRA timepoints, results reflect A!I interventions that vary in their duration. For example, A!I had just started intervening in CRSs in the Kiswahili-phone provinces when the 2017 EGRA was conducted there. Associations with A!I interventions must, therefore, be viewed in light of the duration of the intervention in each case.

¹⁵ Standard deviation describes how much observed values vary from the mean. A smaller SD indicates that most of the values are close to the mean – i.e., that members of a population are similar. A larger SD indicates that values are further from the mean – i.e., that members of a population vary from one another. SDs are listed to understand the variability of the scores within the sample. Confidence intervals are indicated by the lines at the top of each bar. Confidence intervals are a measure of precision, showing that we are confident that given this population, we are confident the true value is within a range of values. The larger the range, the lower the precision.

¹⁶ Analysis of variance is a statistical model that is used to analyze the differences between group means, which helps identify differences in the sample that can be generalized to the population.

¹⁷ The chi-square test is a statistical test comparing the proportion of students with zero scores that were observed in the data against what was expected.

3. **Language of the assessment.** In the DRC, Grades 1 and 2 in EPs and Level 1 in CRSs are taught in national languages; then in Grade 3 EP and Level 2 CRS, instruction transitions to French. However, as previously noted, each EGRA was administered to EP students at the beginning of Grade 3 as a proxy measure for ability at the end of Grade 2, and to learners at the beginning of Level 2 as a proxy for ability at the end of Level 1. This means that the EGRA was administered in the local language to students and learners who were currently learning in French. It is not known how this mismatch of languages may have influenced the measure of children’s ability to read.
4. **Statistical power.** For the 2018 EGRA, samples were drawn at the language level so that results could be generalized by language. However, when subgroup comparisons are made, statistical power decreases—e.g., between boys and girls or changes over time. This reduction of power affects our ability to “see” differences that might be there, but are undetectable due to the size of the sample. In some instances, these subgroup analyses may have therefore missed true differences or relationships (correlations) due to sample size.
5. **Comparability:** For a variety of reasons, samples were drawn differently at each EGRA time point. For instance, the 2015 EGRA sample contained no A!I intervention schools (since A!I provinces had not been selected at the time of the baseline), while the 2017 EGRA contained 80 percent A!I schools and the 2018 sample consisted entirely of A!I schools. Thus, comparing across these populations may be misleading because not all were exposed to A!I interventions. Moreover, when preparing for the 2018 EGRA, several problems were identified in the tools (see Annex G); these were corrected for the 2018 EGRA. However, an analytical strategy called *differential item functioning* (DIF) showed that several items performed differently in 2018 than in previous years, so are not directly comparable (see Annex G for a discussion of the DIF analysis conducted to measure the impact of these differences). For these reasons, year-on-year performance is not directly comparable, and interpretation of patterns over time should be made with caution.

RESULTS

This section presents responses to the report's research questions.

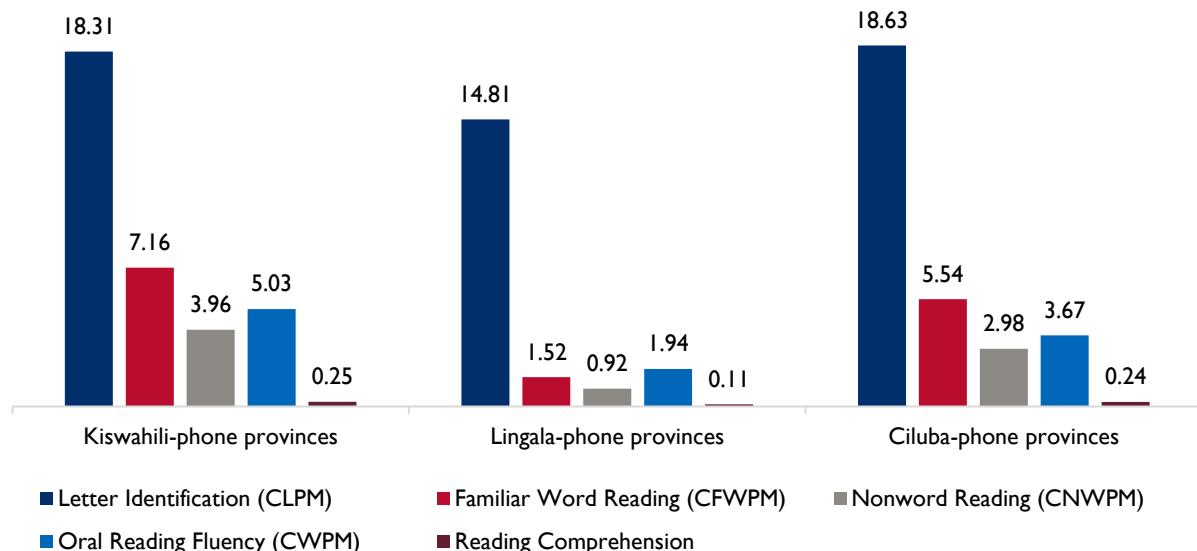
Research Question 1: What are students' reading skills at the end of Grade 2 in public primary schools and learning centers in A!I provinces in 2018?

Results are presented first for EPs, then for CRSs. Note that results are presented by province in the order A!I conducted its interventions: first in the Kiswahili-phone provinces, then in Lingala-phone and finally in Ciluba-phone provinces. Note that all results for Research Question 1 are based on results from A!I schools only (see Annex F).

Subtask Mean Scores, EPs

As Figure 3 shows, students have a basic sense of letter sounds and names, reading or identifying between 14 and 19 letters or sounds every minute on average, or one letter or sound every three to four seconds. Students' competence in reading familiar words was weaker, averaging between one and seven correct familiar words per minute, or about one word every nine seconds. Their competence with decoding nonwords was even weaker, averaging one to four correct nonwords per minute. Oral reading fluency was also low; on average, students read between two and five correct words per minute. Comprehension was virtually nonexistent: students were not able to answer even one question out of five correctly (Figure 3).

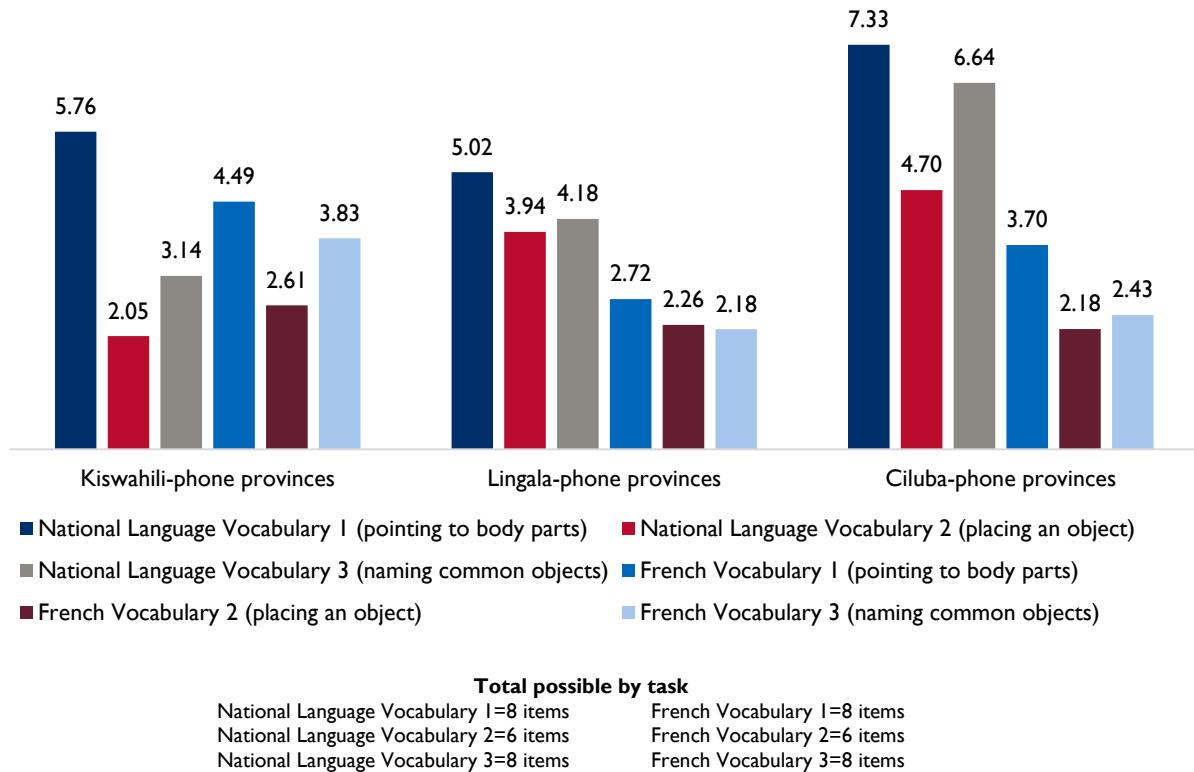
Figure 3: 2018 EGRA Mean Scores on Selected Subtasks, EPs¹⁸



Student performance on the vocabulary subtasks was also poor in both national languages and in French. Of the three types of questions posed, students performed best when asked to point to body parts, less well when asked to place objects relative to their body, and least well when asked to name common objects. Students scored lower on French vocabulary in Ciluba- and Lingala-phone provinces than in the Kiswahili-phone provinces.

¹⁸ CLPM indicates the correct number of letter sounds or names identified in one minute. CFWPM indicates the correct number of familiar words read in one minute. CNWPM indicates the correct number of nonwords read correctly in one minute. CWPM indicates the number of words read correctly in a story in one minute. The reading comprehension score indicates the number of comprehension questions answered correctly out of five possible – e.g., 0.25 in Kiswahili-phone provinces means that on average, one student out of four was able to answer one question correctly out of five; the other students were not able to answer any.

Figure 4: 2018 EGRA Mean Scores on Vocabulary Subtasks, EPs¹⁹

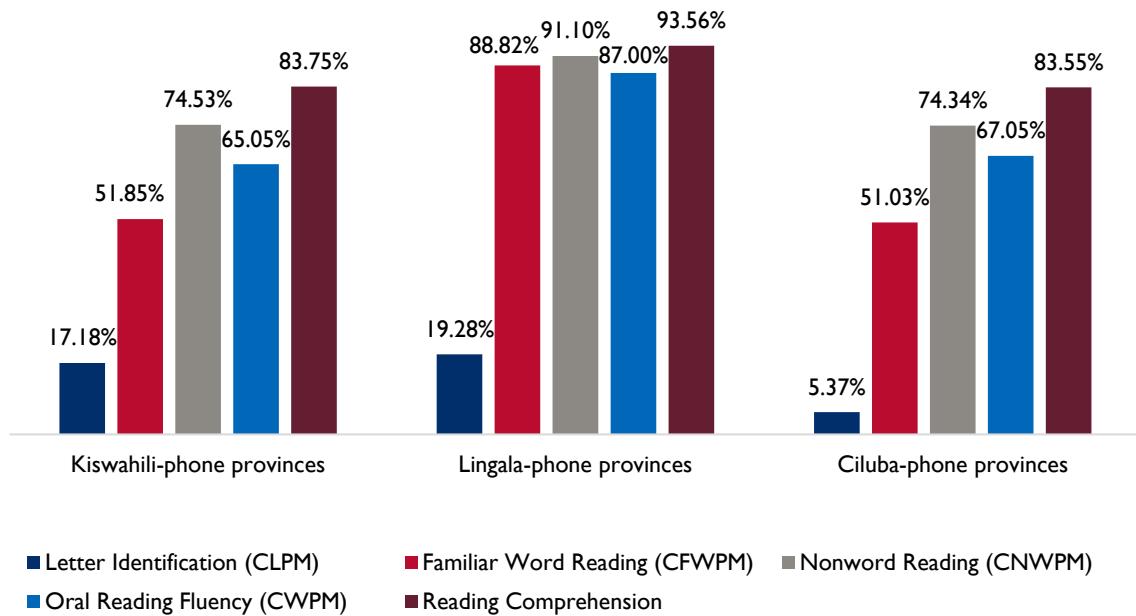


Zero Scores, EPs

Students who did not correctly answer a single item in a given subtask received a zero score. Students had the lowest proportion of zero scores on the letter identification subtask and higher proportions of zero scores on the other four subtasks; nonword reading and comprehension were the highest – the flip side of low mean scores (Figure 5).

¹⁹ Scores represent average number of words correctly identified.

Figure 5: 2018 EGRA Zero Scores on Selected Subtasks, EPs



Performance by Gender and Province, EPs

EGRA results based on school location and gender were analyzed. Key findings are presented here, and additional information can be found in Annexes B and C.

Overall, boys performed better than girls on most subtasks, with the exception of nonword reading in Lualaba, where girls scored better than boys, and letter identification Equateur, where results were virtually the same:

Figure 6: 2018 Ciluba EPs, Nonword Reading

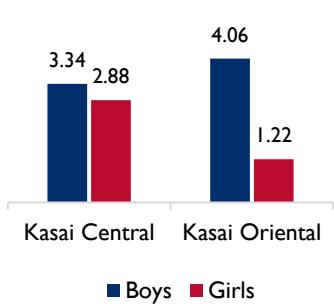


Figure 7: 2018 Kiswahili EPs, Nonword Reading

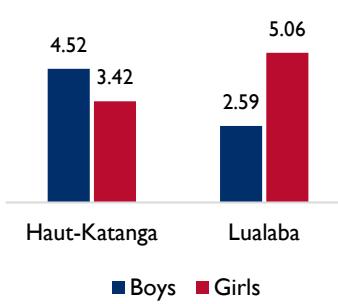
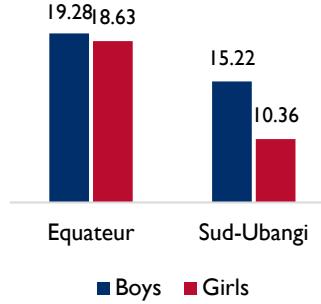


Figure 8: 2018 Lingala EPs, Letter Identification



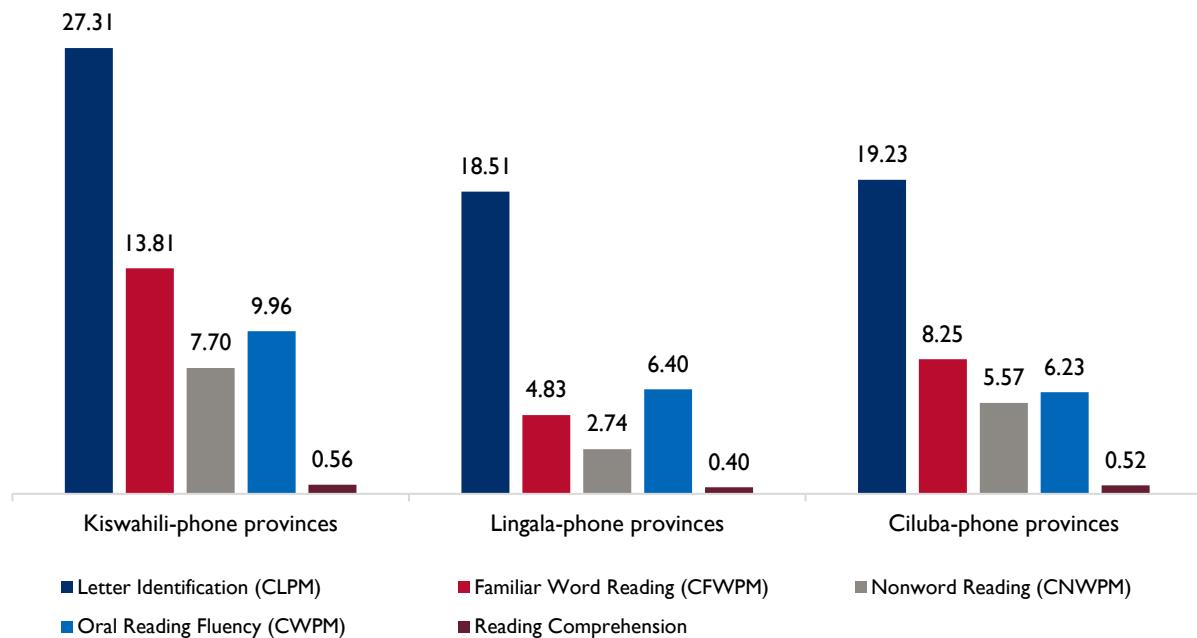
Subtask Mean Scores, CRSs

Figure 9 presents a summary of results by subtask in CRSs. Again, the intent is not to compare performance across language groups; rather, it is to provide a snapshot of how each group performed on five key subtasks.

As was found in the EPs, learners in the CRSs had a basic grasp of letter sounds or names, identifying one every two to three seconds. CRS learners were stronger than students in EPs on other subtasks, though still performed at a slow pace on familiar words—5 to 14 per minute; nonword reading—3 to 8 per minute; and oral reading fluency—6 to 10 words per minute. As with their EP counterparts, learners in CRSs were also unable to answer even one question correctly out of five

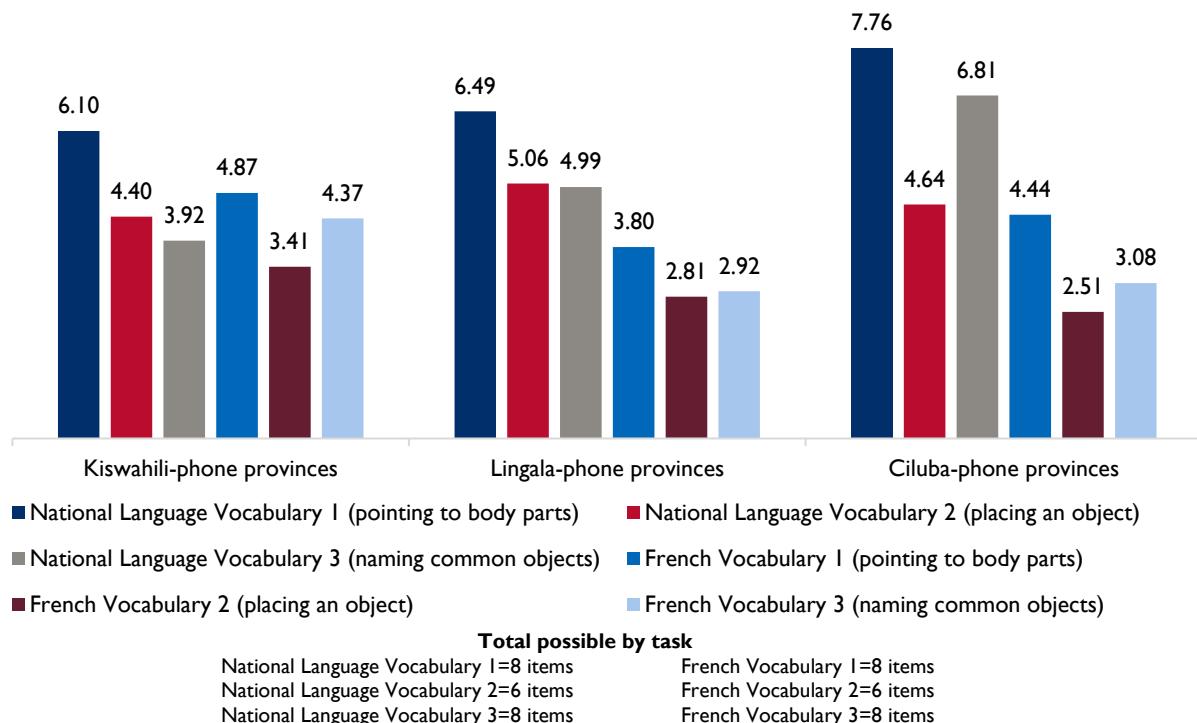
on the reading comprehension subtask (Figure 9).

Figure 9: 2018 EGRA Mean Scores on Selected Subtasks, CRSs



As with the EPs, learner performance on the vocabulary subtasks in the CRSs was weak in both national languages and French. And as with EPs, learners in CRSs performed best when asked to point to body parts. However, learners in CRSs scored higher than students in EPs on the other two vocabulary tasks: placing an object relative to their body and naming common objects.

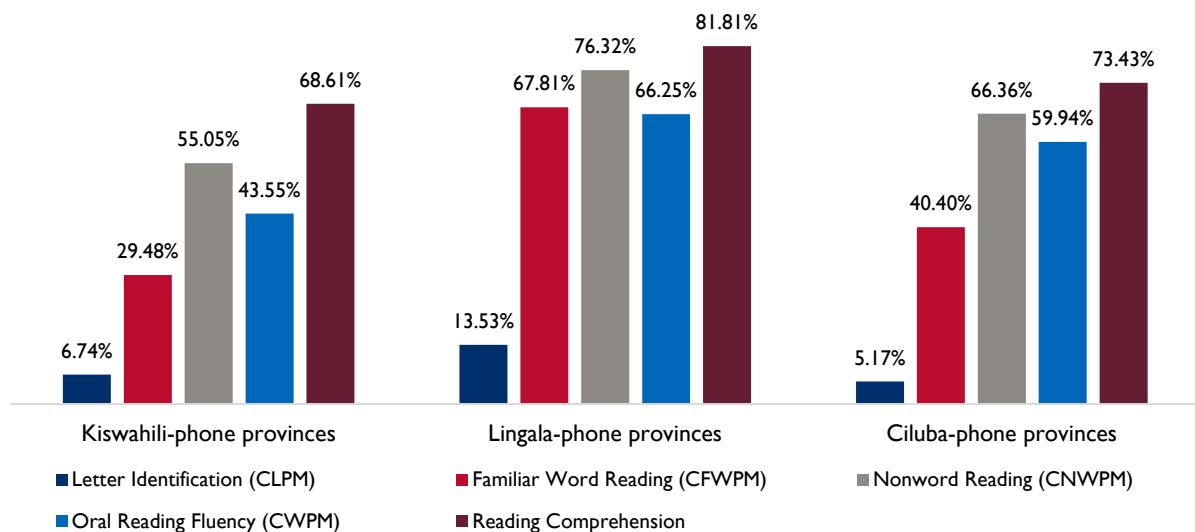
Figure 10: 2018 EGRA Mean Scores on Vocabulary Subtasks, CRSs



Zero Scores, CRSs

Students who did not correctly answer a single item in a subtask received a zero score. Reflecting their performance with letter identification, CRS learners had the fewest zero scores on this subtask. On the others, however, proportions of zero scores were higher, with the Lingala-phone provinces generally having higher zero scores than the other provinces (Figure 11).

Figure 11: 2018 EGRA Zero Scores on Select Subtasks, CRSs

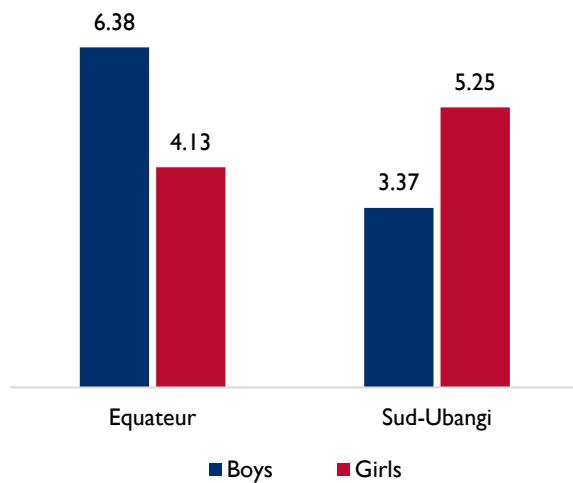


Performance by Gender and Province, CRSs

EGRA results based on school location and gender were analyzed. Key findings are presented here; additional information can be found in Annexes B and C.

In contrast to EPs, where boys and girls performed comparably, boys scored significantly higher than girls on four subtasks in Kiswahili-phone provinces and on five subtasks in the Ciluba-phone provinces. In the Lingala-phone provinces, no other statistical differences were found between boys' and girls' performance scores except in Equateur, where boys outperformed girls on the familiar word reading, and in Sud-Ubangi, where girls outperformed boys on this subtask (Figure 12).

Figure 12: 2018 Lingala CRS, Familiar Word Reading



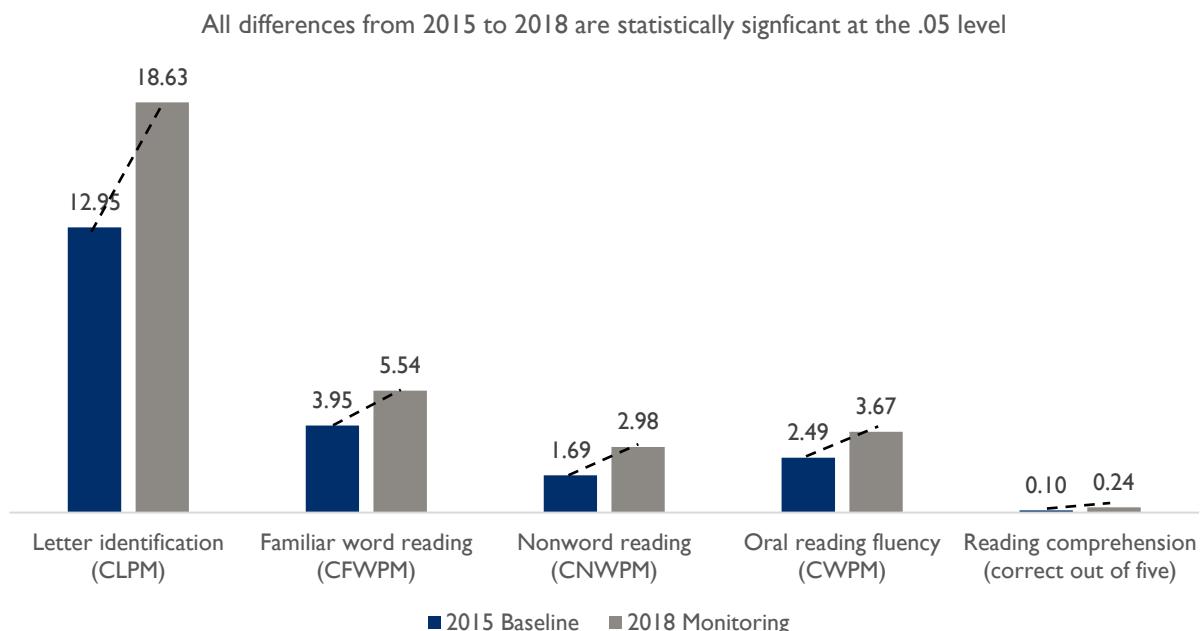
Research Question 2: Results Over Time

This section presents the results of EGRA over time and answers the second research question: How have students' reading skills changed in relation to assessments in 2015 and 2017? Results are presented first for EPs, then for CRSs. Significant differences are indicated with hashed trend lines. Note that for tests of significance of difference, only A!I schools from all three years were included in the analyses.

Mean Scores Over Time, EPs

From 2015 to 2018, scores improved in Ciluba-phone EPs for all five subtasks and differences were all statistically significant. However, as was found in the other two language groups, scores in Ciluba-phone EPs declined from 2015-2018 on the vocabulary subtasks (see Annex C).

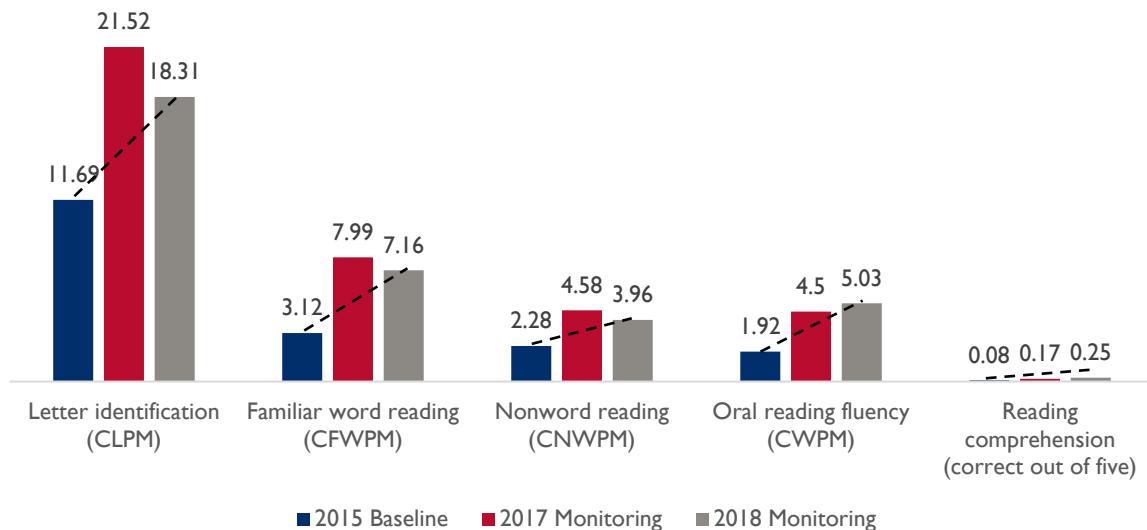
Figure 13: Mean scores on Selected EGRA Subtasks by Year, Ciluba-phone EPs



As in the Ciluba-phone provinces, EP performance in Kiswahili-phone provinces also improved from 2015 to 2018, though scores for most tasks were higher in 2017. Differences in scores from 2015 to 2018 were statistically significant for all five subtasks presented in the figure. However, on the vocabulary subtasks, students in Kiswahili-phone EPs scored lower than in 2015 (see Annex C).

Figure 14: Mean scores on Selected EGRA Subtasks by Year, Kiswahili-phone EPs

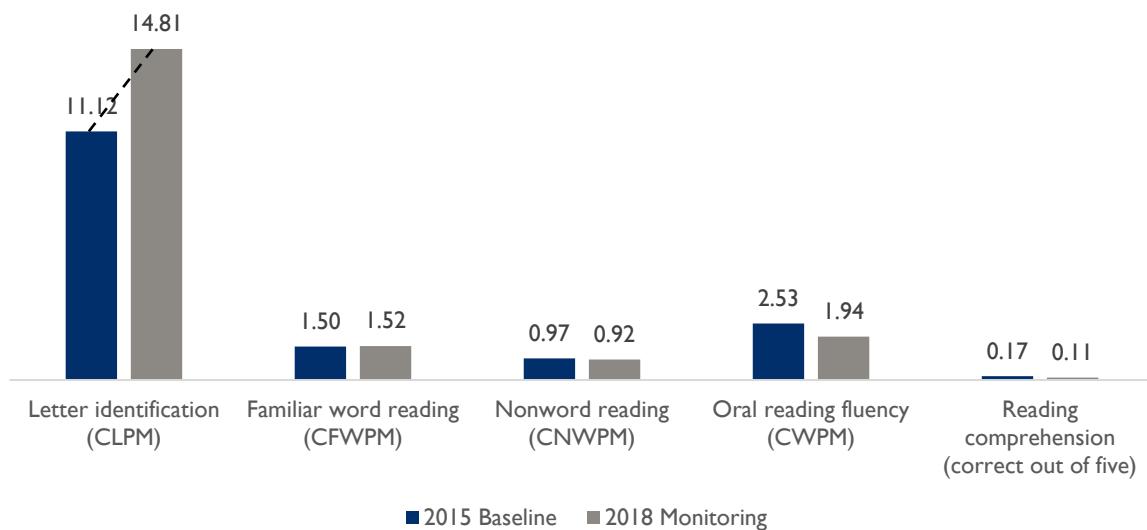
All differences from 2015 to 2018 are statistically significant at the .05 level



In contrast to Kiswahili-phone EPs, scores in Lingala-phone EPs only improved statistically in letter identification (Figure 14). However, as was found in Kiswahili-phone EPs, scores in Lingala-phone EPs declined from 2015-2018 on the vocabulary subtasks (see Annex C).

Figure 15: Mean scores on Selected EGRA Subtasks by Year, Lingala-phone EPs

Difference from 2015 to 2018 in correct letter sounds per minute is statistically significant at the .05 level. No other differences are statistically significant.

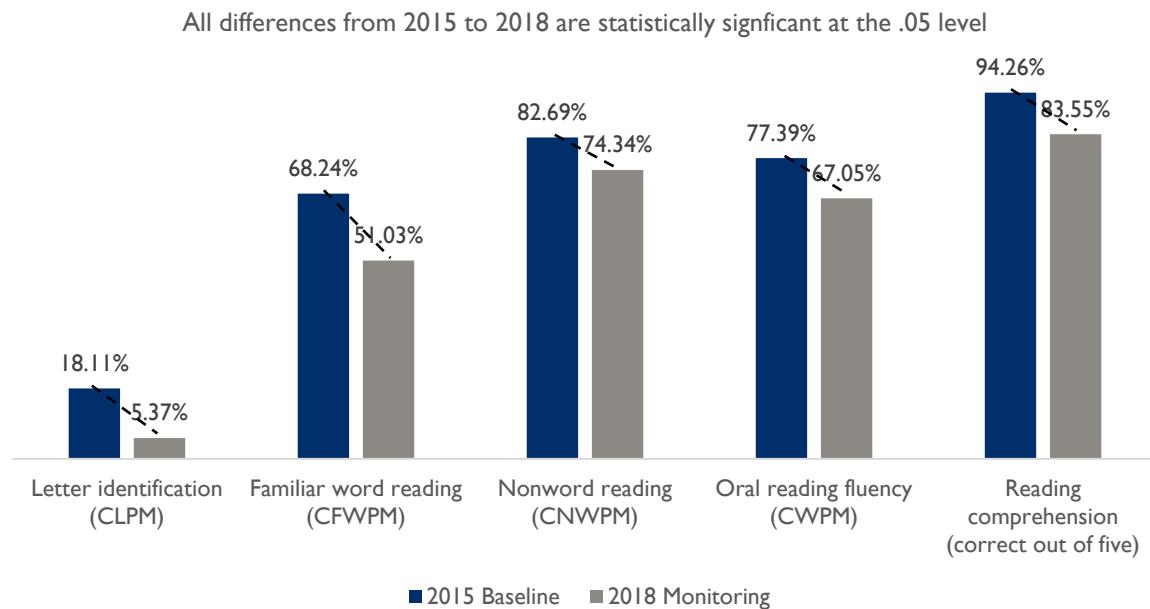


Zero Scores Over Time, EPs

Similar to the trend of improved EGRA mean scores seen in the previous section, the proportion of EP students with zero scores in 2018 declined significantly from 2015 levels for all subtasks except letter identification in Kiswahili-phone provinces.

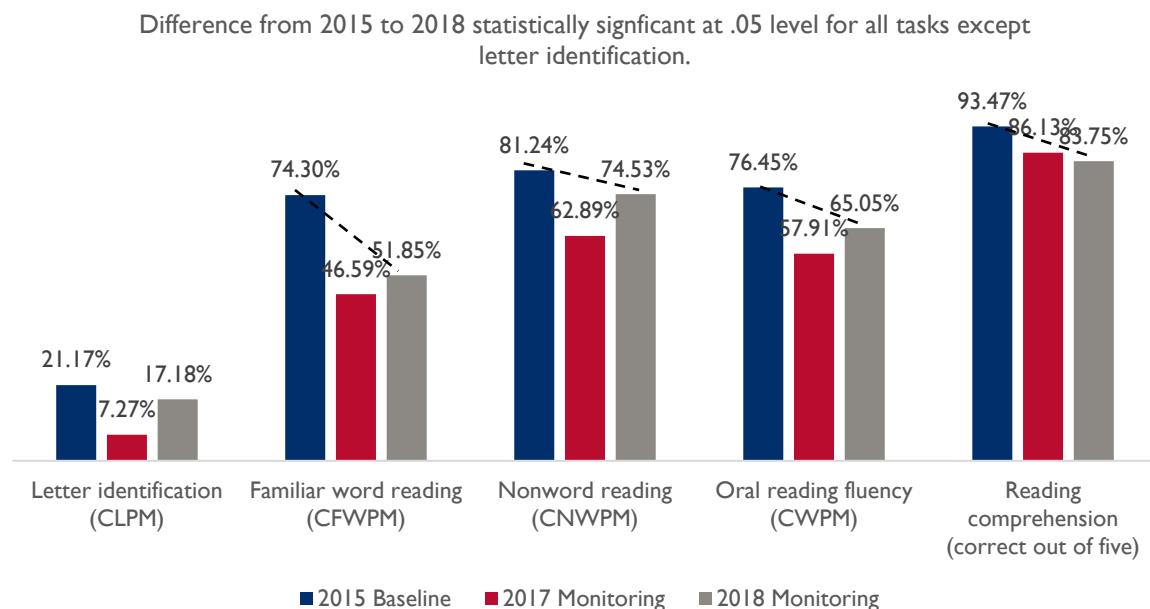
In Ciluba-phone provinces, as in Kiswahili-phone provinces, zero scores in EPs declined from 2015 to 2018 for all subtasks. All differences were statistically significant.

Figure 16: Zero scores on Selected EGRA Subtasks by Year, Ciluba-phone EPs



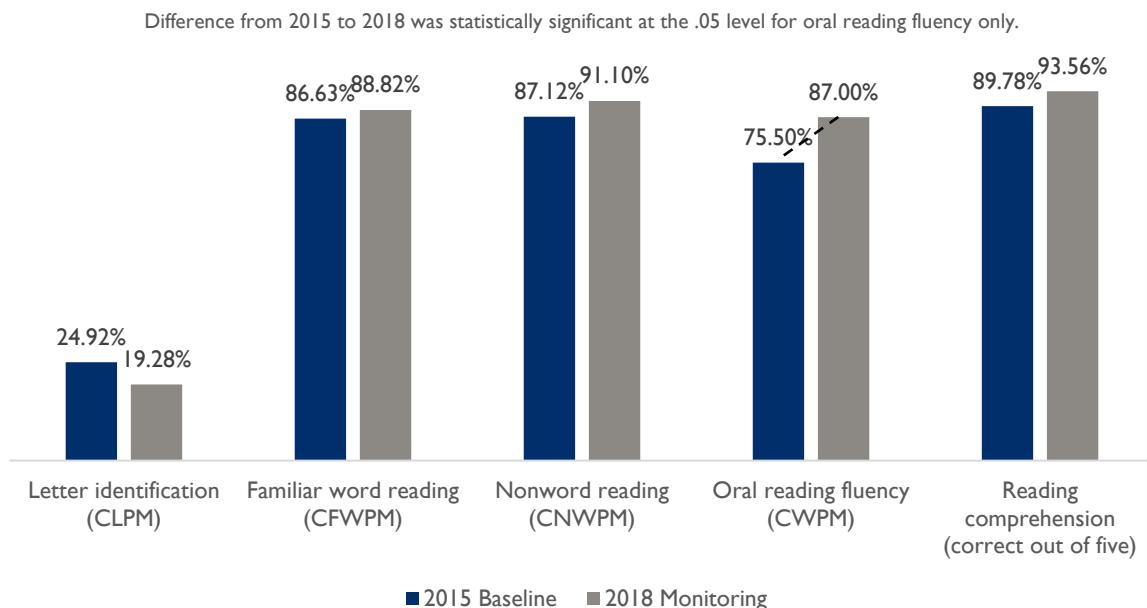
In Kiswahili-phone provinces, reductions in zero scores from 2015 to 2018 were significant for all tasks except letter sounds/names.

Figure 17: Zero scores on Selected EGRA Subtasks by Year, Kiswahili-phone EPs



In Lingala-phone provinces, changes in zero scores in EPs were only statistically significant in oral reading fluency (CWPM).

Figure 18: Zero scores on Selected EGRA Subtasks by Year, Lingala-phone EPs



Subgroup Results Over Time, EPs

EGRA results in EPs were examined in light of student gender and province. The following are results of those analyses.

Gender patterns: In Kiswahili-phone provinces, girls significantly outperformed boys in 2015 and 2018 on three subtasks: familiar word reading, oral reading fluency, and reading comprehension. In Ciluba- and Lingala-phone provinces, boys outperformed girls on most subtasks at both timepoints. However, in Ciluba-phone provinces, girls made greater improvements than did boys on the letter/sound name identification subtask, and girls' performance improved markedly on the familiar word reading subtask while boys' scores declined (Figures 19 and 20).

Figure 19: 2018 Ciluba EPs, Letter Identification

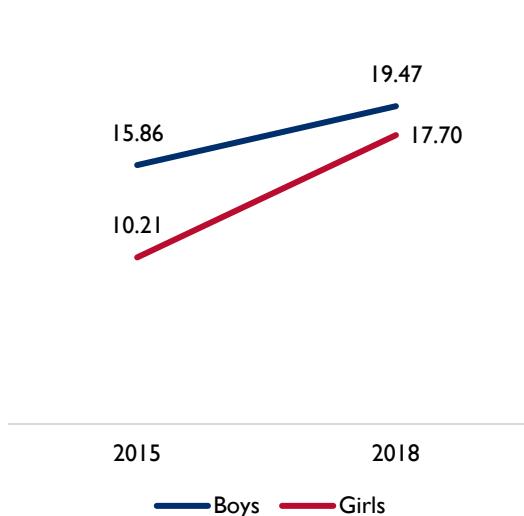
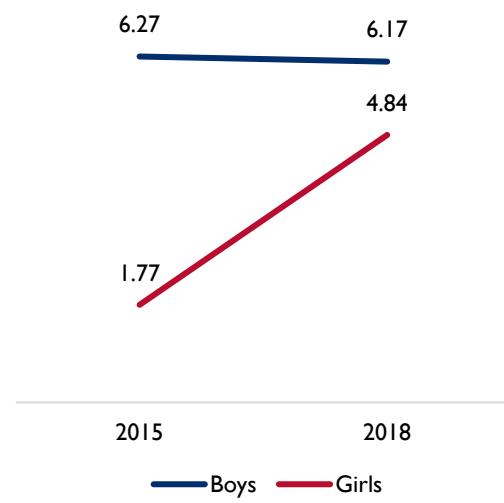


Figure 20: 2018 Ciluba EPs, Familiar Word Reading



Patterns by language group: Several reversals were found in students' performance between 2015 and 2018 when looking at the data within each language group. In the Ciluba-phone provinces, student performance reversed between Kasai Oriental and Kasai Central. In 2015, students in Kasai Oriental scored lower than their peers on familiar word reading and oral reading fluency, then surpassed them in 2018 (Figures 24 and 25).

Figure 21: Ciluba EPs, 2015 and 2018 Assessments, Familiar Word Reading

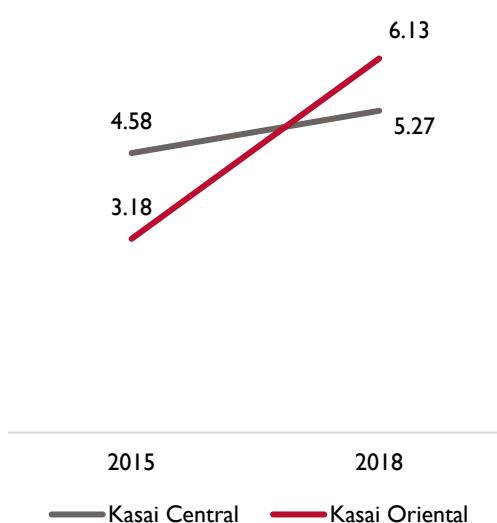
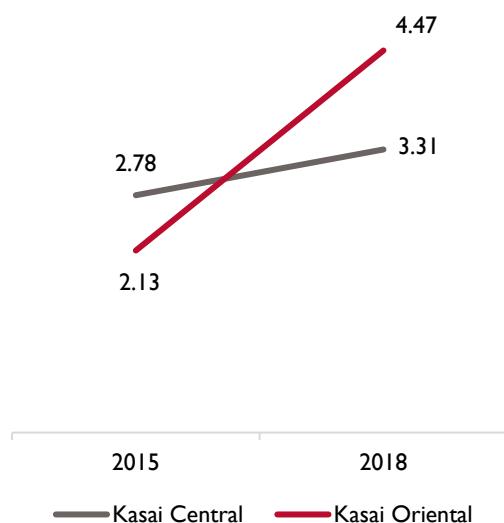


Figure 22: Ciluba EPs, 2015 and 2018 Assessments, Oral Reading Fluency



Some reversals were found in Kiswahili-phone provinces as well. For example, in 2015, students in Lualaba outperformed Haut-Katanga students on three subtasks: letter identification, familiar word reading, and oral reading fluency. By 2018, the relationship was reversed, as students from Haut-Katanga scored higher—albeit modestly—than their Lualaba counterparts on all three subtasks (Figures 21–23).

Figure 23: Kiswahili EPs, 2015 and 2018 Assessments, Letter Identification

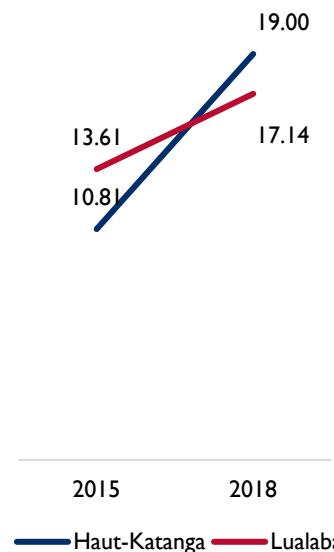


Figure 24: Kiswahili EPs, 2015 and 2018 Assessments, Familiar Word Reading

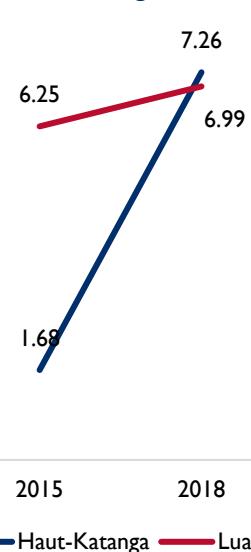
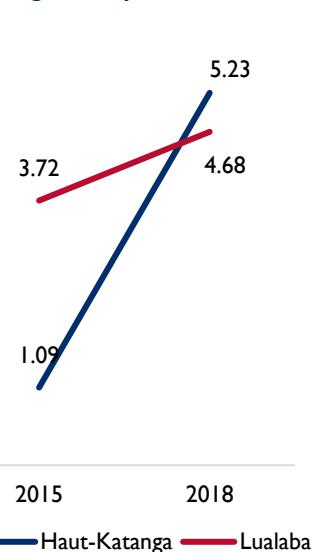


Figure 25: Kiswahili EPs, 2015 and 2018 Assessments, Oral Reading Fluency



Performance Benchmarks Over Time, EPs

In October 2017, A!I organized a workshop with ministry officials, inspectors, teachers and education partners to identify reading benchmarks, or minimum proficiencies, for students to meet by the end of Grades 2 and 4. Benchmarks were set for four skill areas—letter name recognition, familiar word reading, oral reading fluency, and reading comprehension—in three languages—Ciluba, Kiswahili, and Lingala. Targets were also set, indicating the proportion of students who should meet a given benchmark each year from 2015 to 2020.

Table 7 provides an example of benchmarks for Kiswahili-phone provinces. For example, for reading comprehension, students at the end of Grade 2 are expected to be able to understand a grade-level text with 60% comprehension, as measured by answering three comprehension questions correctly out of five. As the table shows, in 2015, 0.3% of Grade 2 students were reading at that level; by 2020, nine percent of Grade 2 students should be reading at that level. Gradual increases are calculated for the intervening years (targets). See Annex H for a list of all benchmarks and zero score targets.

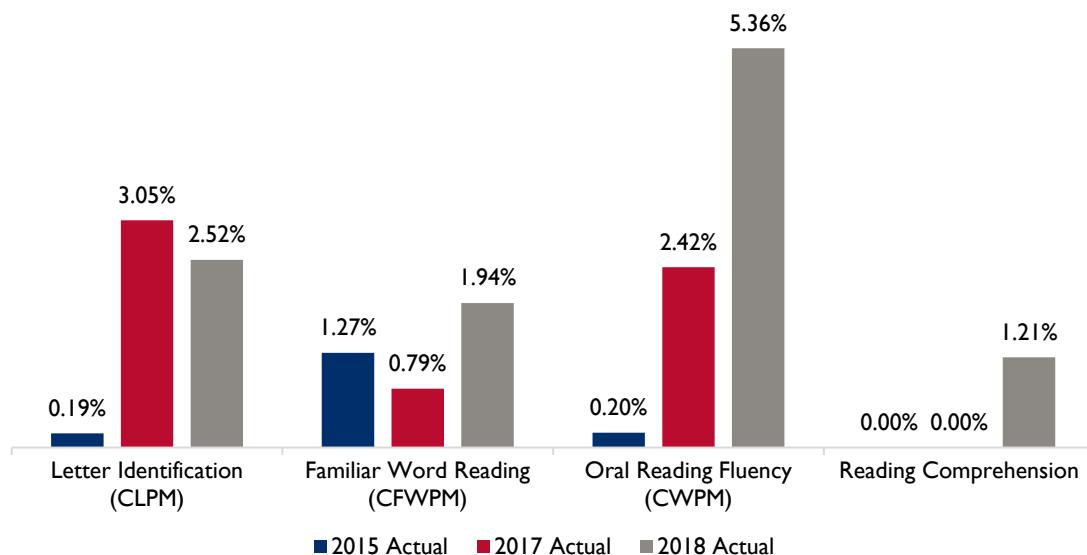
Table 7: Sample of Kiswahili Benchmarks & Targets by Year (shown for illustrative purposes)

Skill measured	Benchmark	Baseline		Targets					
				Y1	Y2	Y3	Y4	Y5	Y6
		2015	2016	2017	2018	2019	2020		
Reading comprehension	60%, or 3 questions correct out of 5	0.3%	2.0%	3.8%	5.5%	7.3%	9.0%		
Oral reading fluency	25 CWPM	0.5%	2.2%	3.9%	5.6%	7.3%	9.0%		
	Zero scores	85.9%	79.5%	73.1%	66.8%	60.4%	54.0%		

The following graphs show the proportion of EP students meeting benchmark at each EGRA timepoint. They are followed by a table summarizing the proportion of students meeting targets each year. Note: “Actual” refers to the percentage of students or learners achieving the benchmark each year per the targets discussed above.

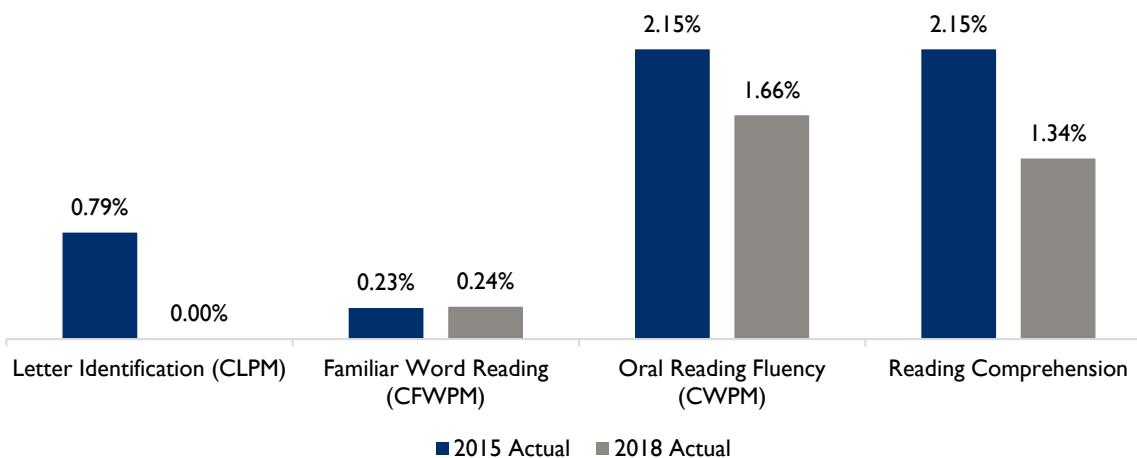
The following graph shows progress in EPs in the Kiswahili-phone provinces. In all four subtasks represented (for which benchmarks were set), the proportion of students meeting benchmark increased from 2015 to 2018. Of note, no students met benchmark for reading comprehension in 2015 or 2017, but this was starting to change in 2018, when 1.21 percent had met benchmark (i.e., reading with 60% or greater comprehension).

Figure 26: Percentage of Students Meeting Benchmark by Year, Kiswahili-phone EPs



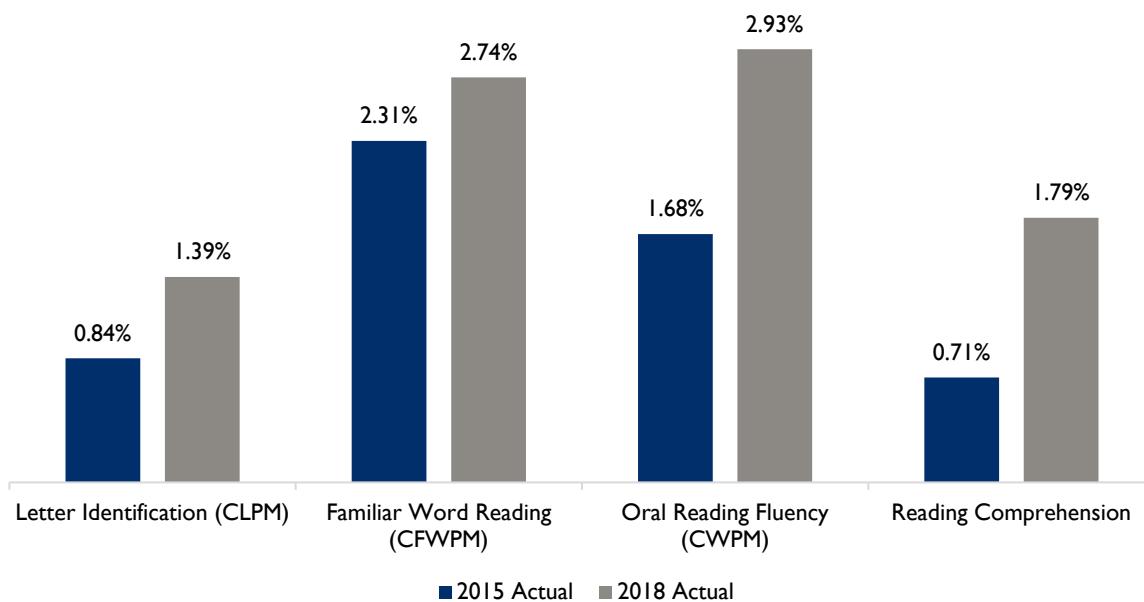
In the Lingala-phone provinces, the proportion of EP students meeting benchmark stayed the same on one task—familiar word reading—and decreased on all the others.

Figure 27: Percentage of Students Meeting Benchmark by Year, Lingala-phone EPs



And as in the Kiswahili-phone provinces, the proportion of EP students meeting benchmark in the Ciluba-phone provinces increased from 2015 to 2018 for all subtasks.

Figure 28: Percentage of Students Meeting Benchmark by Year, Ciluba-phone EPs



In spite of these gains, the proportion of EP students meeting targets by year (as described above) did not increase in most cases. Only zero score targets were met; no targets were met for any of the fluency or sum score subtasks in 2018. Information for benchmarks related to the vocabulary subtasks can be found in Annex C:

Table 8: Performance Benchmarks Met by Language Group and Year, EPs

Performance Category	EGRA Subtask	Ciluba-phone provinces		Kiswahili-phone provinces			Lingala-phone provinces	
		2015	2018	2015	2017	2018	2015	2018
Fluency score	Letter Identification						✓	
	Familiar word reading	✓		✓			✓	
	Oral reading fluency						✓	
Sum score	Reading comprehension						✓	
Zero score	Letter Identification	✓	✓		✓		✓	✓
	Familiar word reading	✓	✓	✓	✓	✓	✓	
	Oral reading fluency	✓		✓	✓	✓	✓	

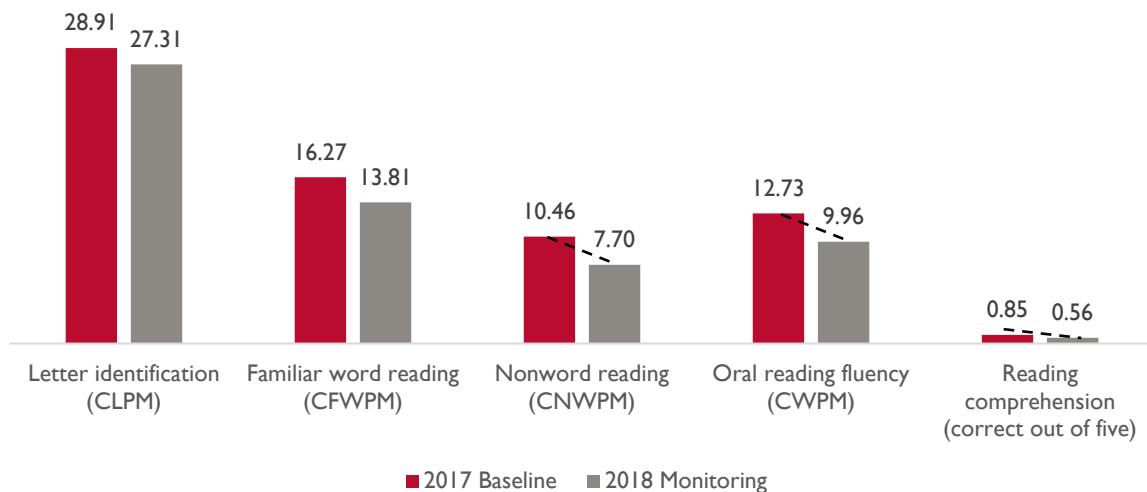
Mean Scores Over Time, CRSs

A note about the sample: For the 2015 EGRA, only a small number of CRSs (n=24) was sampled, and these were not sampled randomly; thus, CRS scores from that year are not included in this analysis. This section, therefore, presents scores from EGRAs conducted in CRSs in 2017 and 2018 only. Note also that A!I assessed reading in Ciluba-phone CRSs for the first time in 2018; as such, those results were presented in the previous section.

As Figure 29 shows, CRS mean scores declined from 2017 to 2018 for all subtasks in Kiswahili-phone provinces, though only the differences across years in ORF and reading comprehension scores were statistically significant.

Figure 29: Mean scores on Selected EGRA Subtasks by Year, Kiswahili-phone CRSs

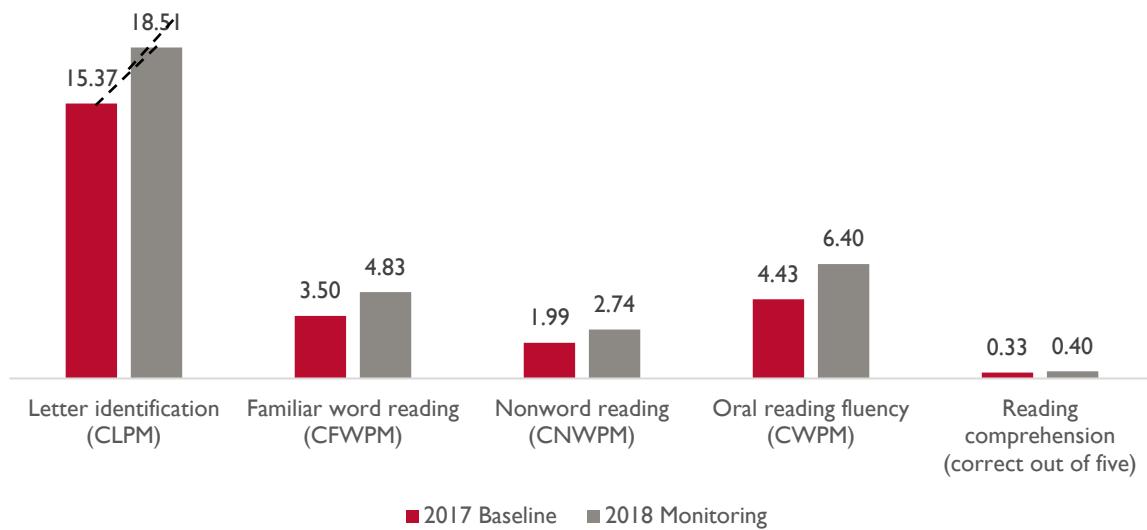
Differences from 2017 to 2018 are statistically significant at the .05 level for nonword reading, oral reading fluency and reading comprehension only.



In contrast, CRS mean scores increased from 2017 to 2018 for all subtasks in Lingala-phone provinces, though only the change in letter identification was statistically significant.

Figure 30: Mean scores on Selected EGRA Subtasks by Year, Lingala-phone CRSs

Differences from 2017 to 2018 are statistically significant at the .05 level for letter identification only.

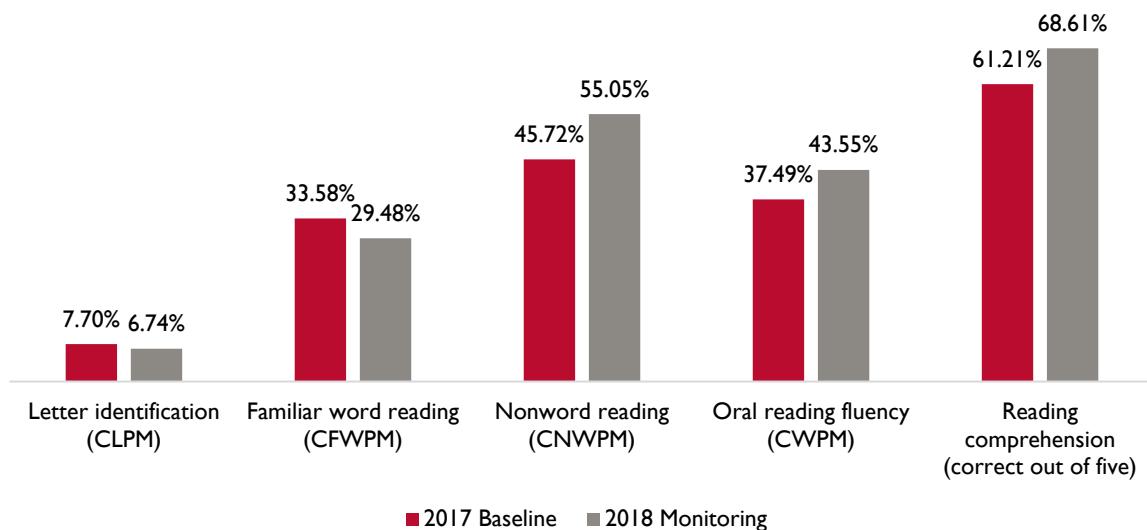


Zero Scores Over Time, CRSs

In the Kiswahili-phone provinces, the proportion of students with zero scores appeared to increase from 2017 to 2018, though no changes were found to be statistically significant.

Figure 31: Zero scores on Selected EGRA Subtasks by Year, Kiswahili-phone CRSs

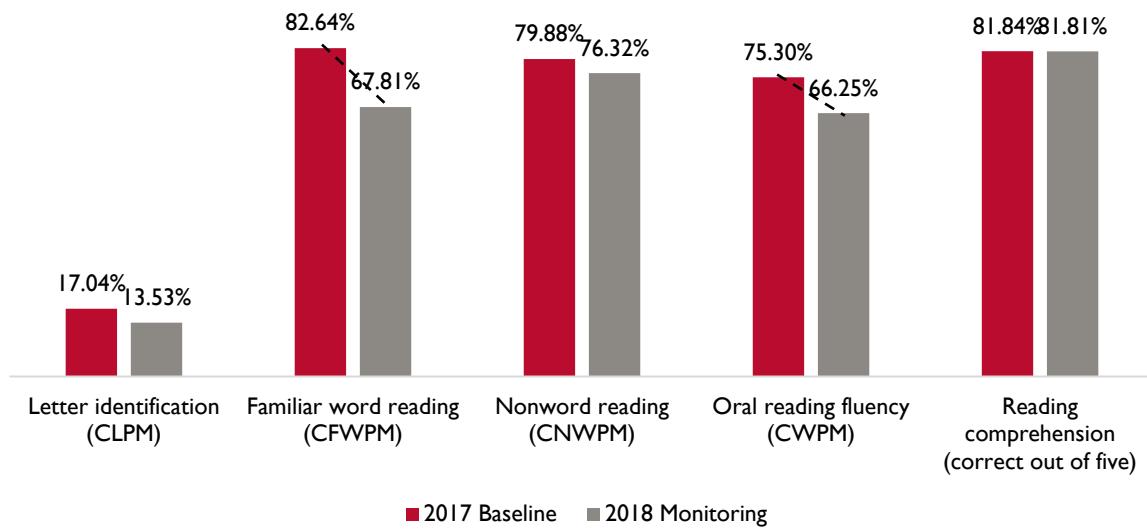
No differences were found to be statistically significant from 2017 to 2018.



In the Lingala-phone provinces, the proportion of students with zero scores appeared to decrease for all subtasks; however, differences were only significantly significant on two subtasks—familiar word reading and oral reading fluency.

Figure 32: Zero scores on Selected EGRA Subtasks by Year, Lingala-phone CRSs

Differences from 2017 to 2018 were found to be statistically significant at the .05 level on the familiar word reading and oral reading fluency subtasks only.



Subgroup Results Over Time, CRSs

EGRA results were examined in light of gender and province. The following are results of those analyses. See Annex C for more details.

Gender patterns: In Kiswahili-phone provinces, the performance of girls and boys was comparable except on two tasks, where they crisscrossed: boys scoring lower than girls in 2017, then higher

than girls in 2018 on the letter identification and oral reading fluency subtasks (Figures 33 and 34).

Figure 33: Kiswahili CRSs, 2017 and 2018 Assessments, Letter Identification

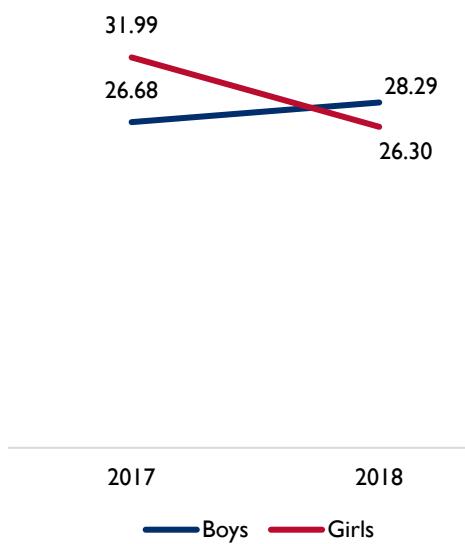


Figure 34: Kiswahili CRSs, 2017 and 2018 Assessments, Oral Reading Fluency



In Lingala-phone provinces, girls' and boys' scores were also comparable, except on two subtasks: oral reading fluency and reading comprehension subtasks, where they crisscrossed. Boys scored higher than girls in 2017, but girls surpassed boys slightly on these two subtasks in 2018 (Figures 35 and 36). On the letter identification subtask, boys' and girls' scores converged in 2018 (Figure 37).

Figure 35: Lingala CRSs, 2017 and 2018 Assessments, Oral Reading Fluency

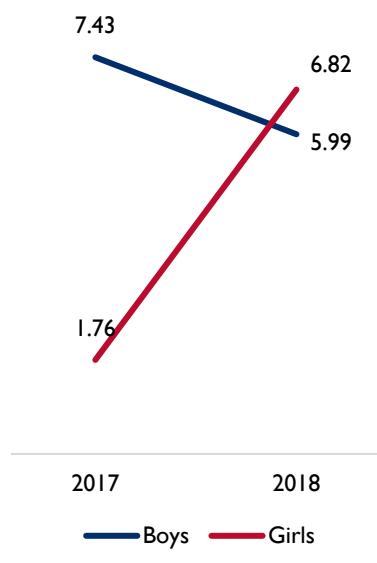


Figure 36: Lingala CRSs, 2017 and 2018 Assessments, Reading Comprehension

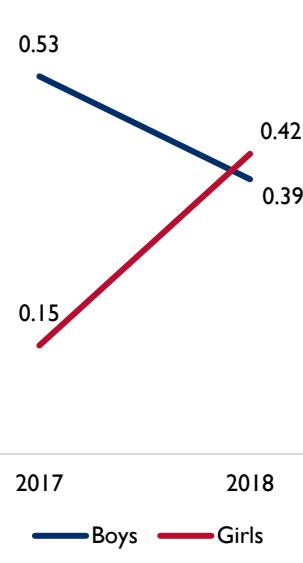
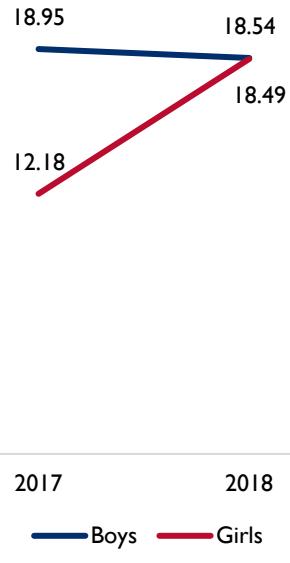


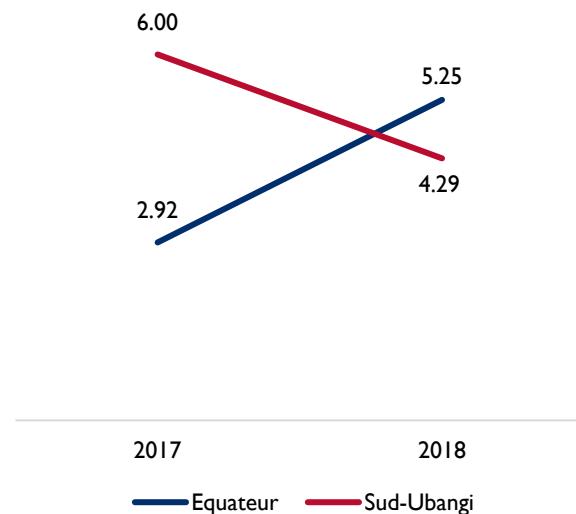
Figure 37: Lingala CRSs, 2017 and 2018 Assessments, Letter Identification



Patterns by language group: In Kiswahili-phone provinces, CRSs learners' scores in North Kivu increased from 2017 to 2018 on five subtasks: letter identification, familiar word reading, nonword reading, oral reading fluency, and reading comprehension. During the same period, scores of CRSs learners in South Kivu declined on the same subtasks. And scores in Haut-Katanga scores remained the lowest both years (see also Annex C).

However, in one instance—in Lingala-phone provinces—a reversal occurred on the letter identification subtask, on which learners in CRSs in Equateur performed worse than their peers in Sud-Ubangi in 2017, then surpassed them slightly in 2018 (Figure 38).

Figure 38: Lingala CRS 2017 and 2018 Assessments, Letter Identification



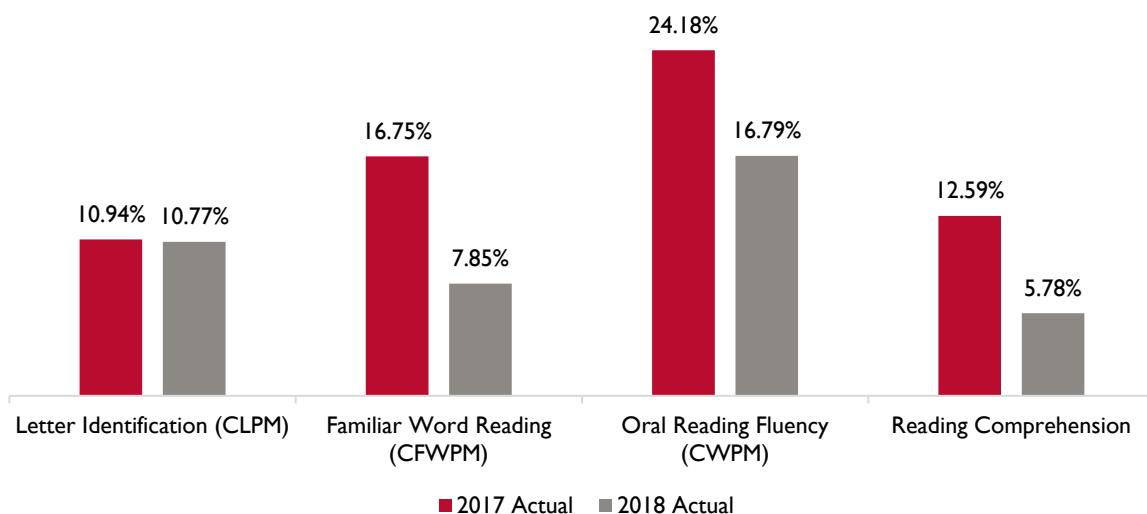
Performance Benchmarks Over Time, CRSs²⁰

As noted above, benchmarks were set in 2017 to establish minimum proficiency levels of students at the end of Grades 2 and 4. The 2018 EGRA sample included learners in Level 1 of CRS, or the equivalent of Grade 2 in EPs; hence, benchmarks for Grade 2 are considered here for learners completing CRS Level 1 instruction.

As the following graphs show, results within language groups were mixed. From 2017 to 2018, the proportion of learners meeting benchmark in the Kiswahili-phone CRSs remained the same for letter identification but decreased on the other tasks.

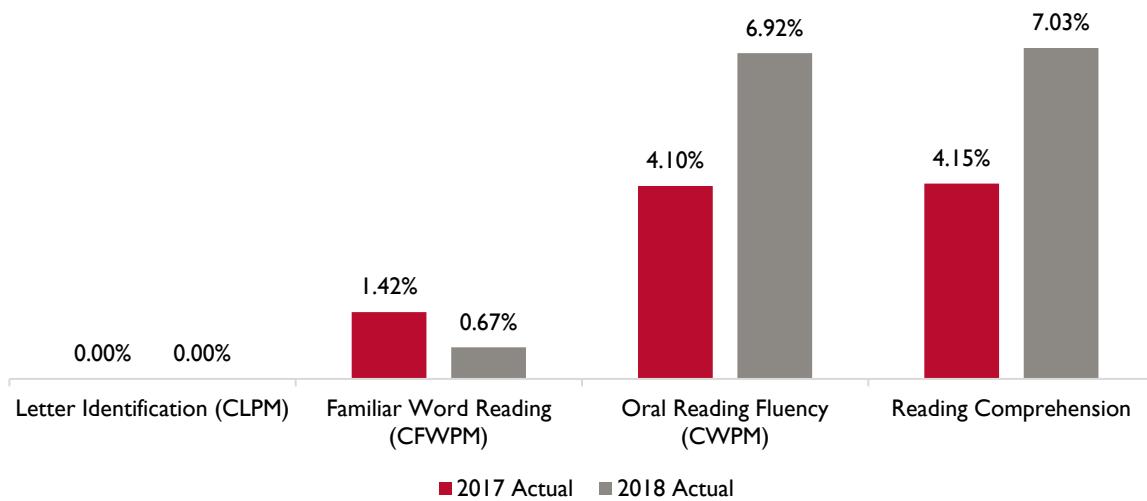
²⁰ Benchmarks discussed reference performance expectations for students in EPs at the end of Grade 2. CRS learners at the end of Level 1 are considered to be equivalent and expected to reach the same performance levels.

Figure 39: Percentage of Students Meeting Benchmark by Year, Kiswahili-phone CRSs



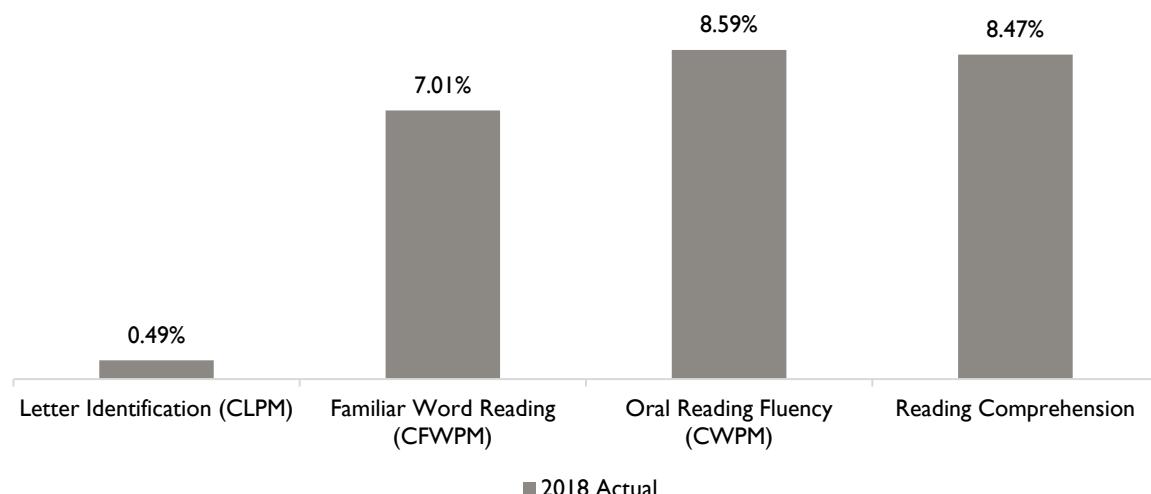
In the Lingala-phone provinces, the proportion of learners meeting benchmark in letter recognition remained the same (zero) from 2017 to 2018 and decreased in familiar word reading, but increased in oral reading fluency and reading comprehension.

Figure 40: Percentage of Students Meeting Benchmark by Year, Lingala-phone CRSs



As noted, AII has taken one measure for the Ciluba-phone CRSs to date. The proportion of learners meeting benchmark in that assessment are presented in Figure 41. Of note: Though a smaller proportion of Ciluba-phone learners met benchmark for oral reading fluency than their counterparts in Kiswahili-phone CRSs, the proportion of learners meeting benchmark in Ciluba-phone CRSs was the highest of the three groups at 8.47%.

Figure 41: Percentage of Students Meeting Benchmark by Year, Ciluba-phone CRSs



In contrast to EPs, greater proportions of CRS learners met the government's targeted levels in 2017 and 2018. In Lingala-phone provinces, targeted proportions were achieved in oral reading fluency and reading comprehension in 2017 and 2018, and targeted proportions for both these skills, as well as familiar word reading, were met in Ciluba-phone provinces in 2018. Targets for zero scores were also met in all cases for Kiswahili- and Ciluba-phone provinces:

Table 9: Performance Benchmarks Met by Language Group, CRSs

Performance Category	EGRA Subtask	Ciluba-phone provinces	Kiswahili-phone provinces		Lingala-phone provinces	
		2018	2017	2018	2017	2018
Fluency score	Letter Identification			✓	✓	
	Familiar word reading	✓	✓	✓		
	Oral reading fluency	✓	✓	✓	✓	✓
Sum score	Reading comprehension	✓	✓	✓	✓	✓
Zero score	Letter Identification	✓	✓	✓	✓	✓
	Familiar word reading	✓	✓	✓		
	Oral reading fluency	✓	✓	✓		

Research Question 3: Contextualizing EGRA Results

This section examines the relationships between students' reading skills and contextual factors about their experiences at home and school. It answers the third research question: **What are the relationships between school and home factors and students' reading skills?**

To answer this question, frequencies were run from the SSME tools, including the student, teacher, and school director questionnaires and the school and classroom inventories. These frequencies are summarized in the heat map below. Then, correlations were run between factors captured in the SSME tools and EGRA results. Thirteen composites were also constructed using SSME items to identify relationships between concepts such as classroom conditions and performance on the EGRA. Some correlations were found based on these composites and selected variables, and are discussed below. Finally, regression analyses were run. Regressions make it possible to identify "predictors," or factors that can be seen to predict (not cause) something to occur. For example, a mother's ability to read might predict higher reading outcomes. For regressions run in this study, no statistically significant results were found.

Summary of SSME Results

The heat map below is presented to provide a summary of SSME results at a glance. Frequency of response is represented in color, with deeper green indicating more frequent responses and orange and red, less frequent ones. Findings which may be of interest for future education programming include the following:

- More frequently reported:
 - Use of national languages at home, providing rationale for teaching reading in these languages in the early grades
 - Children feeling safe when they go to school/leave (health, socially, financially) across all three language groups, suggesting that in the main, safety issues are likely not impacting learning. However, note that responses are split on whether students have witnessed physical violence or abuse in the last week.
- Less frequently reported:
 - Children using French at home, suggesting that student acquisition of French in school will require substantial support
 - Children attending kindergarten, suggesting that skills otherwise acquired in kindergarten should be included in the early grades
 - Books at home, suggesting that home-based support for the development of students' development of reading skills is likely to be low, though note relatively high reported rates of literacy for fathers and mothers
 - Other donors supporting education, suggesting A!I is one of the only sources of support received by these schools
 - School and classroom inventories generally showing the dilapidated condition of schooling infrastructure and furniture

The heat map also suggests that the physical conditions of EPs (e.g., electricity, water, toilets) are better in Kiswahili-phone provinces than in Ciluba- or Lingala-phone ones.

Table 10: Heat Map of SSME Frequencies of Responses

Respondent	Question	EPs			CRSs		
		Ciluba-phone provinces	Kiswahili-phone provinces	Lingala-phone provinces	Ciluba-phone provinces	Kiswahili-phone provinces	Lingala-phone provinces
Student	Use of non-dominant language at home	24.20%	29.80%	60.10%	5.60%	48.30%	54.10%
	Use of French language at home (all students)	6.20%	25.80%	14.80%	8.60%	24.30%	16.80%
	Use Kiswahili, Lingala, or Ciluba at home	87.00%	92.70%	84.40%	95.30%	95.10%	91.30%
	Attended kindergarten	24.20%	31.30%	28.60%	33.00%	17.10%	28.70%
	Feel safe going to/from school	7.10%	80.40%	93.10%	17.70%	89.90%	95.70%
	Feels safe at school	6.20%	80.20%	90.10%	15.70%	91.50%	94.10%
	Paying school fees	89.40%	92.80%	94.30%	56.30%	83.00%	63.50%
	Attendance percentage (NOT absent last week)	71.30%	86.10%	72.40%	77.10%	69.80%	68.60%
	Attendance percentage (NOT late last week)	69.70%	74.80%	71.30%	75.70%	60.80%	61.20%
	Books at home	27.70%	48.60%	37.40%	25.10%	31.60%	17.40%
	Reading practice at home self-read)	55.70%	66.70%	39.50%	53.40%	62.80%	40.30%
	Reading practice at home read to)	43.10%	60.40%	27.40%	28.90%	39.90%	18.60%

Respondent	Question	EPs			CRSs		
		Ciluba-phone provinces	Kiswahili-phone provinces	Lingala-phone provinces	Ciluba-phone provinces	Kiswahili-phone provinces	Lingala-phone provinces
	Mother literate	83.20%	94.10%	73.80%	84.70%	81.20%	67.10%
	Father literate	93.90%	92.00%	92.00%	86.30%	86.00%	93.70%
Teacher	Paid on time	68.40%	75.70%	31.60%	25.00%	14.30%	0.00%
	Able to teach when the weather is bad	33.30%	65.00%	23.10%	29.20%	54.50%	8.70%
	Received ACCELERE! (training 2017)	82.10%	92.50%	87.50%	50.00%	82.60%	82.60%
	Received ACCELERE! (training 2018)	87.20%	87.50%	90.00%	33.30%	60.90%	26.10%
	Have been observed by directors	82.10%	57.50%	85.00%	87.50%	73.90%	82.60%
	Satisfied with parent participation	69.20%	69.40%	77.50%	43.50%	61.90%	91.30%
	Feel safe in school health, socially, financially)	92.30%	87.50%	77.50%	83.30%	65.20%	82.60%
	Feel safe when they go to school/leave health, socially, financially)	89.50%	82.50%	90.00%	83.30%	90.90%	91.30%
	Believes students are safe at school	92.30%	85.00%	90.00%	87.50%	73.90%	95.70%
School Director	Have not witnessed physical violence between students in the past week	66.70%	56.40%	57.50%	58.30%	52.20%	60.00%
	Have a female head of school	12.50%	27.50%	12.50%	37.50%	37.50%	41.70%
	Received ACCELERE! (training 2017)	92.50%	92.50%	87.50%	66.70%	91.70%	91.70%
	Have other donors supporting	5.10%	15.00%	28.20%	4.20%	4.20%	8.30%
	Feel safe in their establishment	75.00%	67.50%	85.00%	91.70%	91.70%	75.00%
	Believe teachers feel safe at school	82.50%	77.50%	90.00%	95.70%	87.00%	75.00%
School Inventory	Believe students feel safe at school	82.50%	70.00%	87.50%	95.80%	91.70%	70.80%
	State that school repairs are not needed	12.50%	10.00%	15.00%	0.00%	16.70%	12.50%
	Have functioning electricity day of survey)	2.50%	37.50%	0.00%	0.00%	20.80%	0.00%
	Have source of drinking water available to students	0.00%	62.50%	10.00%	8.30%	29.20%	8.30%
Classroom Inventory	Have at least one toilet/latrine in working condition	72.50%	95.00%	70.00%	75.00%	70.20%	58.30%
	Have sufficient seats	23.10%	40.00%	38.50%	21.70%	50.00%	37.50%
	Classroom is well lit	84.60%	92.50%	87.20%	78.30%	70.80%	70.80%

Student Questionnaire

After completing the EGRA, students answered a set of questions about their background, learning experiences in school and at home, and the conditions of their home and community. Comparisons between results at baseline in 2015 and the monitoring assessments in 2017 and 2018 are made on select items. Key findings are detailed in this section, while student responses to the full student questionnaire administered along with the EGRA are provided in Annex E.

Socioeconomic Status. Despite variations between regions and student groups, one major trend emerged with respect to students' socioeconomic status composite score.²¹ In general, students with a higher SES composite score performed significantly higher on some of the EGRA subtasks at baseline; however, students of all SES backgrounds performed comparably on these subtasks in 2018. In other words, the weak statistically significant relationship between the SES composite and performance on some of the EGRA subtasks at baseline decreased or disappeared in the monitoring assessment.

LEARNING EXPERIENCES OUTSIDE SCHOOL

Parental Literacy. Overall, a greater proportion of students who took the monitoring assessment reported that their parents were able to read than did those at baseline. Parental literacy was not related to student performance except in two instances. Students at Kiswahili-phone EPs who reported their father was literate performed better on four subtasks than those who said their father could not read.²²

Speaking French at Home. Students who said they spoke French at home generally outperformed those who said they did not in three of the six school groups—EP students in Ciluba- and Kiswahili-phone provinces, and CRS students in Lingala-phone provinces. Although this trend was not found in the other three school groups, it does align with the findings from the A!1 Quarterly Assessments.²³

Access to Books at Home. Access to books at home was only found to be substantially related to performance in Ciluba-phone provinces, where EP students who reported having access to books at home scored significantly higher on four of five subtasks. Interestingly, of all the language groups, EP students in Kiswahili-phone provinces had the highest rate of books at home—48.6 percent—yet those students did not have higher EGRA scores.

Reading at Home. Students were asked whether they read aloud at home as well as whether someone at home read to them. Students who said they read aloud at home at least once a week performed significantly higher on all EGRA subtasks than did those who said they never read at home, except for Kiswahili-phone CRS students where rates were similar (Table 11). However, students who said someone else reads to them at home performed comparatively with their peers who said they are not read to at home.

Table 11: 2018 EGRA Oral Reading Fluency Rates by Students' Reading Behavior at Home by Language and School Type

School Group	Language	Students who read aloud to someone at home at least once a week			Students who did not read aloud to someone at home		
		N	%	CWPM	N	%	CWPM
EP	Ciluba	203	55.7%	4.89*	190	44.3%	2.14
	Kiswahili	251	66.7%	6.33*	142	33.3%	2.42
	Lingala	142	39.5%	3.50*	241	60.5%	0.92
CRS	Ciluba	120	53.4%	8.21*	108	46.6%	3.96

²¹ The SES composite score computed the sum of students' responses regarding the availability of household necessities or luxury items—electricity, water, toilet, kitchen, fridge, radio, television, bike, motorbike, computer—and students' access to food before coming to school. The presence of more of these necessities or luxury items indicated a higher level of SES.

²² These students performed better on the letter identification, familiar word reading, oral reading fluency, and reading comprehension subtasks.

²³ Quarterly Assessments were tests conducted by A!1 at the end of each trimester to measure the extent to which students had met basic expectations for the curriculum that term.

School Group	Language	Students who read aloud to someone at home at least once a week			Students who did not read aloud to someone at home		
		N	%	CWPM	N	%	CWPM
	Kiswahili	146	62.8%	10.84	73	37.8%	8.16
	Lingala	78	40.3%	9.84*	136	59.7%	4.10

Note: An asterisk * denotes differences between readers and non-readers at home are statistically significant at the $p < 0.05$ level.

SCHOOLING EXPERIENCES

Finally, students' schooling experience was examined. The analyses included items about paying school fees, classroom practices, and safety on the way to school and at school.

School Fees. A small proportion of students reported that their families were not able to pay for schooling. In 2018, more than 90 percent of EP students reported paying school fees. However, a smaller proportion of CRS learners said they paid fees, ranging from just over 50 percent in Ciluba-phone provinces to nearly 85 percent in Kiswahili-phone provinces. Students reporting not paying fees performed comparatively on the EGRA to their counterparts paying fees. However, CRS students in Kiswahili-phone provinces who reported not paying fees had significantly higher mean scores on all subtasks than did students who were paying the fees.

Classroom Practices. Students were asked to respond to four questions about teacher practices in the classroom. A composite was created based on what students said about their teacher's reaction when:

- a student responds well to a question in class
- a student responds incorrectly or poorly to a question
- a student does not behave well in class, and
- a student is late to a class.

In the EPs and CRSs in Ciluba-phone provinces, this composite was positively correlated, though weakly, to EGRA scores on five subtasks, and in Kiswahili-phone EPs, it was also correlated with EGRA scores on three EGRA subtasks, though weakly, suggesting that when teachers respond positively to students and learners, they perform better than when teachers respond negatively.

Student Safety. The vast majority of students in Lingala-phone and Kiswahili-phone CRSs and EPs felt safe at school, as well as on their way to school; the lowest proportion of those students who felt unsafe on their way to school or at school was approximately 20 percent in Kiswahili-phone EPs. In Ciluba-phone schools, however, very few students felt safe at school—less than 7 percent of EP students and more than 15 percent of CRS students. Note that the Rapid Education Risk Analysis (RERA) study conducted by A!I in Ciluba-phone provinces also found a high incidence of students who did not feel safe at school.²⁴

Teacher and School Director Questionnaires

In each institution, one Grade 2 or Level 1 teacher was surveyed along with the school director. Interviews were conducted with 119 EP teachers and 120 EP school directors and 70 CRS teachers and 72 CRS school directors. Key findings from the 2018 Monitoring EGRA are summarized in this section. Complete tables of all items, as well as details about composite scores, are presented in Annex E.

²⁴ KASAI's Rapid Education Risk Analysis Report. May 2018. A!I

School Director Training. School Directors reported whether they participated in three trainings. Participation rates were high across regions (Table 12). A composite based on responses to these questions showed a correlation with performance on all five subtasks for only one group—EP students in Kiswahili-phone provinces—suggesting that when School Directors participate in A!1 training more frequently, their students perform better.

Table 12: Frequency of EP and CRS School Directors' Participation in A!1 Trainings by Language Group

Training	EP N=40)						CRS N=24)					
	N	Ciluba	N	Kiswahili	N	Lingala	N	Ciluba	N	Kiswahili	N	Lingala
Received 2017 read-write training?	37	92.5%	37	92.5%	35	87.5%	16	66.7%	22	91.7%	22	91.7%
Received training on reading didactics?	39	97.5%	33	82.5%	35	87.5%	19	79.2%	24	100.0%	19	79.2%
Received training on strategy and standards Module 1)?	31	77.5%	29	72.5%	30	75.0%	8	33.3%	16	66.7%	19	79.2%

Teacher Access to A!1 Resources. Teachers' responses about access to A!1 resources and training varied. As Table 13 shows, the majority of EP teachers indicated they received training in both 2017 and 2018. Fewer CRS teachers reported receiving training in 2017, especially in Ciluba-phone provinces. Even fewer CRS teachers had received training by the time of the 2018 data collection. Although the majority of teachers had received teacher guides, fewer EP teachers said they received instructional materials (teachers' guides, learner books) than did CRS teachers. A composite based on responses to the five questions was tabulated, and no statistically significant relationships were found with student performance in any of the provinces or school types.

Table 13: Frequency of EP and CRS Teachers Receiving A!1 Training and Materials by Language Group

Question	EP						CRS					
	N=39	Ciluba	N=40	Kiswahili	N=40	Lingala	N=24	Ciluba	N=23	Kiswahili	N=23	Lingala
Received 2017 read-write training?	32	82.1%	37	92.5%	35	87.5%	12	50.0%	19	82.6%	19	82.6%
Received 2018 read-write training?	34	87.2%	35	87.5%	36	90.0%	8	33.3%	14	60.9%	6	26.1%
Received A!1 teacher's guide?	37	94.9%	36	90.0%	34	85.0%	22	91.7%	22	95.7%	20	87.0%
School received A!1 learner books?	9	23.1%	8	20.0%	12	30.0%	19	79.2%	22	95.7%	12	52.2%
Your students received A!1 learner books?	7	17.9%	8	20.0%	9	22.5%	13	54.2%	19	82.6%	11	47.8%

Teacher Compensation. The majority of teachers in Kiswahili-phone and Ciluba-phone EPs reported being paid on time—75.7 percent and 68.4 percent, respectively. However, less than one in three teachers in Lingala-phone EPs said they were paid on time. On-time payment was rarer for CRS teachers, including 0 percent of those in Lingala-phone provinces.

Weather's Impact on Teaching. Teachers in Lingala-phone schools reported the greatest challenges with inclement weather. Only 23.1 percent of EP teachers and 8.7 percent of CRS teachers in these provinces said they are able to teach in bad weather. In contrast, 65.0 percent of EP teachers and 54.5 percent of CRS teachers in Kiswahili-phone provinces said they are able to teach in those conditions.

Satisfaction with Parental Engagement. The majority of EP teachers in all three language areas said they were satisfied with parental engagement at school. Satisfaction with parental engagement varied for CRS teachers, ranging from 43.5 percent in Ciluba-phone provinces to 91.3 percent in Lingala-phone provinces.

Safety and Safety Practices at School. The overwhelming majority of teachers and school director reported they felt safe at school and said they believed their students were safe at school. Composites developed for teachers and school directors found no significant relationships between their perceptions of safety with student performance in any of the provinces or either school type.

School and Classroom Inventories

Information about school conditions and available classroom resources was collected through school and classroom inventories. Data were collected at each school where the EGRA was administered—120 EPs and 72 CRSs—and in each respective classroom at schools where students were selected to take the EGRA. Key findings are presented in this section, while frequencies of select items from these inventories are presented in Annex E as well as detailed tables of composite scores tabulated.

Unequal Infrastructure Conditions: Nearly 90 percent of schools across all provinces need repairs. Kiswahili-phone EPs are more likely to have basic amenities than any other group of schools. The majority of these schools have a source of drinking water, compared with less than one-third of schools in other groups. Similarly, more than 30 percent of Kiswahili-phone EPs have functioning electricity, compared with only one Ciluba-phone EP and no Lingala-phone EPs, Lingala-phone CRSs, or Ciluba-phone CRSs.

Inventory composites: Data from the school and classroom inventories were used to compute four composite scores:

1. School conditions and resources²⁵
2. A!I resources in the classroom²⁶
3. Classroom conditions and learning resources²⁷
4. Teacher resources in the classroom²⁸

Overall, the mean values of each of these composite scores did not vary largely within each school type, and most were reasonably below the maximum possible value. The average value of the **A!I resources in the classroom** composite was very low in both EPs and CRSs. On average, an EP had less than one of the four A!I resources—learner notebooks, booklets, a French oral reading poster, and letter band. On average CRSs had at least one A!I resource in a classroom.

The relationship between each composite and EGRA performance was examined. There were no correlations between the availability of A!I resources in the classroom or school conditions and resources with EGRA scores.

In Kiswahili-phone CRSs, a moderate correlation was observed between the classroom conditions and learning resources composite and scores on four subtasks—familiar word reading, nonword reading, oral reading fluency, and reading comprehension. This relationship suggests that in CRSs in the Haut-Katanga and Lualaba provinces, students in classrooms with better conditions and more learning resources tended to have higher EGRA scores. However, this relationship was not observed in other provinces or school types.

In most provinces, no correlations were found between student performance and teacher resources in the classroom. However, in EPs in Lingala-phone provinces, there was a weak-to-moderate negative relationship between teacher resources in the classroom and student performance on four subtasks. This correlation suggests that, in these EPs, greater teacher access to teaching materials and resources was related to lower student performance.

²⁵ This five-item composite score reflects whether a school had a source of electricity, a source of drinking water, clean toilets or latrines, access to a working phone, a documentation center or a library, and playground, and whether the repairs were needed in school. Higher scores on this composite indicated more positive conditions and resources at the school.

²⁶ This four-item composite reflects whether each student in the classroom has received an A!I learner notebook and a booklet and whether the classroom has a French oral reading poster as well as A!I letterbox.

²⁷ This seven-item composite reflects whether there were books other than textbooks available to students in the classroom, student work or educational materials was displayed on the wall, sufficient seating was present for students, and whether a chalkboard and chalk were present in the classroom.

²⁸ This five-item composite score reflects whether a teacher had supplies deemed necessary for teaching, including a pencil or a pen, notebook, reading reference manual, reading teacher's guide, and notebook for lesson plans.

DISCUSSION

Students' and learners' reading levels are improving. The “big story” from the 2018 EGRA is that, though some scores declined from 2017, overall performance maintained an upward trajectory from 2015 to 2018, including significant increases in mean scores and significant reductions in zero scores. While the reasons for declines in some mean scores from 2017 to 2018 are unknown, it is important to remember that change over time is not linear, and that “zig-zag” trend lines can be a normal part of growth. Subsequent measures will show whether the improvements seen from 2015 to 2018 are stable and continue in an upward direction.

Kiswahili-phone provinces performed better than Ciluba- and Lingala-phone provinces. While the purpose of this EGRA was not to compare performance across provinces, the results of the 2018 EGRA show that students and learners in Kiswahili-phone EPs and CRSs performed in general better than their peers in other provinces. Some results suggest possible reasons. For example, students in Kiswahili-phone provinces reported superior physical conditions of schools and more frequent use of French at home – the latter being a factor associated with stronger performance in A!I’s Quarterly Assessments. However, conditions in CRSs in Kiswahili zones are sometimes worse than those in other language zones, yet learners sometimes score higher than their peers. Another factor may be the exposure of students in Kiswahili-phone EPs and CRSs to A!I intervention: since A!I was rolled out in those provinces first, their teachers have had more time to acquire skills for effective literacy instruction. In addition to this, the Ebola outbreak in Equateur in 2018 and the unrest in Kasai Central from 2016-2018 could have impacted school closure and hence student attendance. Only future measures of student learning can confirm whether these trends will persist and shed further light on the enduring factors that enhance performance in Kiswahili language zones.

Near-universal declines in students meeting benchmark raise questions about the fit between the benchmarks and these populations. All Lingala-phone students met benchmarks in 2015, but few did in the other language groups. In most cases, no students met benchmark targets in subsequent years, except for zero score targets. This pattern raises the question about the validity of the benchmarks as currently drafted. If benchmarks do not reflect actual levels of students or learners—that is, if no students or learners are able to meet them—their validity might be questionable. Drafting the benchmarks in October 2017 served as a valuable first step in establishing valid performance standards. In that process, the “mean method” was used—one which first looked at students who achieved acceptable levels of comprehension on an EGRA, then hypothesizes that the means or scores they received on other subtasks should be considered the proper level of ability for all students. This method has been widely used by USAID because it is based on evidence, is calculated statistically, and is efficient enough to be done in a short period of time. However, given the gap between benchmarks and student performance over time in the DRC, a review of the benchmarks—for instance, piloting, convening an expert panel review, or exploring other means—might result in alignment that better fits this population. Most recently USAID and partners have been exploring establishing benchmarks via the social moderation approach.

Declines in performance on both vocabulary subtasks suggest the possibility that oral language development may be lagging. While it is not clear why vocabulary performance declined from 2015 to 2018, it is clear that performance is low—this EGRA showed that children continue to struggle with oral language, both in national languages and in French. This, however, does not come as a surprise when we consider the key findings of the Sociolinguistic Mapping and Teacher Language Ability study. For example, in provinces that are assigned Lingala (Sud Ubangi and Equateur), children either spoke Ngbaka (rural Sud Ubangi), a non-Bantu language with little similarity to Lingala or Lokondo (Equateur), a language sharing some lexical similarities with Lingala but still a language on its own. Many of these children are therefore learning oral language skills and

reading in a second language. Taken together, these language differences and mismatches could contribute to the decline in vocabulary performance from the 2015 baseline. This raises questions about oral language development in the early grades in the DRC. What were teachers doing before receiving ACCELERE! training and TLMs? Were they using the children's vernacular to deliver instruction? What is needed to overcome these language barriers for teachers and students?

Accounting for the difference in performance between CRSs and EPs. As was found in 2017, and as has been found in A!I's quarterly assessments, CRSs tend to perform significantly better than EPs. This pattern is not uncommon; factors such as student age, motivation to attend school in order to re-enter the formal system, parental encouragement of their children's attendance, and management of CRSs compared with EPs can all be factors in the difference in performance. An inventory of these and other factors—for instance, rates at which school fees must be paid, distance to school, conditions of learning—could shed light not only on why CRSs tend to perform better, but which aspects might be transferrable to EPs in order to improve their performance as well.

Limited information from correlations. Though several SSME tools were used to capture contextual factors at home and at school that may play a role in children's learning, results of these analyses were mixed. Although factors such as teachers' attendance in training or reading at home were found to be positively correlated with stronger EGRA outcomes in some instances, the pattern was not usually found in all cases. The absence of a stronger picture may be due, in part, to the limited sample size, which affects analysts' ability to detect differences or correlations. The small number of correlations may also be due to the nature of the SSME tools, which were designed to be used across cases and countries and, as such, are fairly generic in nature. If this is the reason, then in future efforts we should link EGRA results to both questions found in the SSME tools and to track fidelity of implementation.

RECOMMENDATIONS

The following recommendations are based on the findings from the 2018 EGRA. They are presented in two sections: ones that can be acted upon with the time and resources available in Year 5 of A!I, and ones that go beyond Year 5, to be considered by USAID, the Ministry, and implementing partners for future programming. This section also draws upon recommendations made as a result of other data collected on fidelity of implementation (FOI), qualitative interview data, and the Sociolinguistic Mapping and Teacher Language ability study. Note that while Year 5 targets a different population from Years 1 to 4, it is assumed that children in private schools will experience similar challenges to their peers in public schools, and thus the following recommendations will be relevant for Year 5.

Recommendations for A!I, Year 5

- 1. Remove the vocabulary subtasks from the Year 5 EGRA baseline but continue to monitor the teaching of vocabulary.** Students' poor performance on the vocabulary subtasks over time was found to run contrary to trends on all other subtasks, which raises questions about the nature of the vocabulary subtask. Vocabulary is inherently difficult to assess for a variety of reasons, including regional variations in vocabulary, pronunciation, and meanings, etc. and for this reason, has been removed from EGRAs elsewhere. Nevertheless, vocabulary acquisition is foundational to early grade literacy acquisition. It is therefore recommended that A!I remove the vocabulary subtasks from the Year 5 EGRA baseline, but continue to reinforce best practices in teaching vocabulary through project monitoring and FOI activities.
- 2. Add French subtasks to the Year 5 EGRA baseline.** Though school directors routinely reported that their schools are using the national curriculum in their schools, which includes the use of national languages in the teaching of reading, A!I lacks sufficient information to know the extent to which actual practices are based solely on instruction in national language, whether French is used exclusively, or whether children learn with a mix of the two. To ensure that students' ability to read is captured in either language, A!I should consider testing in both national languages and French.
- 3. Emphasize key instructional strategies in the trainings.** Based on the EGRA findings that student reading ability drops off with familiar word reading, decoding (invented word reading), fluency, and comprehension, A!I face-to-face trainings and school directors' ongoing support to teachers via observations and feedback should reinforce the importance of student practice in applying these skills. This identified need is consistent with project FOI data which revealed that teachers on average skip the "you do/student application" part of the I do/we do/you do procedure. Project qualitative data revealed that this seems to be due to teachers' difficulty and resistance to gradually releasing responsibility to the learner but also is related to teachers' lack of appropriate pacing of lessons (spending more time on certain steps or activities than others). As a result, many teachers spend their time modeling (I do) and leading whole class practice (we do), but skip the "you do" portion, the most essential piece of the lesson for students to practice and hence acquire the targeted skill. As a result, trainings need to emphasize this core message of the importance of student practice. Without an opportunity to practice, students will not improve their reading skills. In addition to encouraging teachers to allow students time to independently practice their reading skills, trainings should also promote the community engagement piece to emphasize students' out of school reading practice.
- 4. Add time to the vocabulary-building activities and word explanations in the teacher's guides.** The TLMs were designed based on the national language policy that assumes that children understand and speak the standard national languages assigned to their province (see footnote 1). However, these EGRA results and the findings of the Sociolinguistic Mapping and Teacher Language Ability study show that this is not necessarily

the case. For example, 2017-2018 fidelity of Implementation data showed that teachers spent more time on average on the vocabulary-building activities than the actual time allotted in the teacher's guide. In monitoring visits, teachers have also stated that they didn't feel they had enough time to define all the new words needed for their students to understand the read-aloud text. Teachers also indicated that they themselves struggled with explaining new words. Based on these findings, A!I materials development specialists should add time to the vocabulary activities in the lesson plans and include word definitions to assist teachers in their efforts to explain unfamiliar words.

5. **Link EGRA and fidelity of implementation data in order to identify A!I intervention components most strongly associated with improved reading.** If A!I were to conduct an EGRA end line and FOI in the same schools A!I would be able to test its theory of change—that is, implementation and outcome data could be linked in order to measure the extent to which A!I strategies were associated with the intended outcome of improved reading. Note that this type of analysis would only be possible if an EGRA end line is conducted, which is not currently planned.

Recommendations for consideration by USAID, the Ministry and IPs for future programming

6. **Review and update the benchmarks.** The varying degrees to which students met benchmarks across languages suggests that a review might help identify instances where benchmarks may not be realistic—i.e., they might be too high in some cases. Such a review would entail consideration of benchmarks proposed in the DRC over the past few years—including those from A!I, those from the Project PAQUE, and elsewhere—and would consider the extent to which these benchmarks adequately reflect students' current performance levels. To avoid a strictly data-driven approach, which might be technically desirable but practically unfeasible, partner might consider processes such as social moderation—a process currently being piloted by USAID for setting global benchmarks in reading and math.²⁹
7. **Engage the government and stakeholders in dialogue around the language of education policy and implications for training and TLMs.** Research shows that students tend to learn more effectively when they are initially taught in a language they understand. Based on the results of the 2018 Monitoring EGRA and the Sociolinguistic Mapping and Teacher Language Ability study, it is clear that a significant percentage of students are not receiving instruction or materials that align with their home language, even if some results showed learners to be “competent enough” in the national language of instruction. Teachers also struggle with teaching in the national languages in part because many were never educated or trained in these languages but also due to language differences. This should be brought to light with the government and education stakeholders. To do this, the current results of the Sociolinguistic Mapping and Teacher Language Ability study should be further disseminated, especially within the Ministry. Additionally, a similar study should be completed to cover provinces not covered in the original study. Using the results of this study corroborated with the results of this EGRA to support the case, future programs can initiate dialogue about the flexibility of the language in education policy, for example, allow majority Ngbaka speaking schools to employ existing Ngbaka reading materials to teach reading skills (materials available in over 50 schools in Sud Ubangi). In these language mismatch cases, scripted lesson plans for Grades 1 and 2 could be considered as guides rather than prescribing the materials to be used. As the goal is for children to learn the alphabetic principle in a language they understand first before transferring it to reading in other languages, devise strategies on how to support teachers

²⁹ USAID (2019). Policy linking method: Linking assessments to global standards. Draft paper. February.

and learners who struggle to teach and learn in the assigned national languages given the difference with the spoken language.

8. **Provide teachers with more in-depth training in the “standard” national language.** In light of the poor performance of students on the vocabulary tasks over time and teachers’ reported difficulties with teaching and understanding the standard national languages (particularly Kiswahili and Lingala), partners should examine strategies to support teachers in their acquisition of the “standard” national languages especially for the provinces assigned to Lingala and Kiswahili in comparison to the provinces assigned to Ciluba. Schools should also be provided with dictionaries written in the standard national languages to assist them in understanding and explaining new words.
9. **Explore which aspects of CRSs can be applied to EPs.** Given the generally stronger performance of CRSs in comparison to EPs, partners should study factors that may contribute to these different outcomes, including material conditions, management practices, parental expectations, and student population profiles—e.g., age, background, and motivation of those attending school.

ANNEXES

[Annexes intentionally removed for online posting].

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