REPORT

2019 Early Grade Reading Assessment (EGRA) in the Democratic Republic of Congo:

A snapshot of performance in selected private schools and CRSs

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ACRONYMS

A!1	Activity 1 of the Accelerating Equitable Access to School, Reading, Student Retention, and Accountability, known as *Accès, Lecture, Redevabilité et Rétention!*
CFWPM	Correct Familiar Words per Minute
CLPM	Correct Letters per Minute
CNWPM	Correct Nonwords per Minute
CWPM	Correct Words per Minute
CRS	Accelerated Learning Centers, known as *Centres de Rattrapage Scolaire*
DRC	Democratic Republic of the Congo
EGRA	Early Grade Reading Assessment
EP	Private Schools, known as *École Privée*
IRR	Inter-Rater Reliability
ORF	Oral Reading Fluency
SES	Socioeconomic Status
SSME	Snapshot of School Management Effectiveness
STS	School-to-School International
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

PROJECT BACKGROUND

Activity 1 of the Accelerating Equitable Access to School, Reading, Student Retention, and Accountability (A!1) is funded by the United States Agency for International Development (USAID). Following the release of the Trafficking in Persons report in its fourth year of implementation, USAID instructed A!1 to redirect its support from schools supported by the Democratic Republic of the Congo's (DRC's) government to schools in the non-state sector. Accordingly, A!1 began planning interventions for two types of non-state establishments—private primary schools, known as *écoles privées* (EPs), and accelerated learning centers, known as *centres de rattrapage scolaire* (CRSs). In the fifth year of its implementation, A!1 targeted these establishments in six provinces: the Lingala-phone provinces of Equateur and Kinshasa; the Ciluba-phone province of Kasai Central; and the Kiswahili-phone provinces of Haut-Katanga, North Kivu, and South Kivu.

In September and October of 2019, A!1 conducted an EGRA to serve as a snapshot of this population's reading levels, which would inform project design decisions as well as inform the Ministry of Education and education stakeholders of this group's reading abilities. School-to-School International (STS), serving as a subcontractor to A!1's prime contractor Chemonics International, Inc., led the administration of this EGRA.

EVALUATION PURPOSE

In September and October 2019, A!1 implemented an Early Grade Reading Assessment (EGRA) in its intervention areas to obtain a snapshot of the reading skills of students in the non-state private sector. The results of this study aim to inform future project activities and stakeholders. The EGRA was administered at EPs and CRSs. In the EPs, students at the beginning of Grade 2 participated, while in the CRSs, learners at the beginning of Level 1— the equivalent of Grade 2—participated. In total, 188 establishments, 124 EPs and 64 CRSs, were included in this EGRA, which assessed a total of 2,131 children—1423 students in EPs and 708 learners in CRSs. Nearly half of the children assessed were girls (49.0 percent from EPs and 53.4 percent from CRSs).

A!1 assessed each child in both the national language of their province—Lingala, Ciluba, or Kiswahili—and in French via eight subtasks.
- National language portion
  - Letter Identification[1]
  - Familiar Word Reading
  - Nonword Reading
  - Oral Reading Fluency
  - Reading Comprehension
- French language portion
  - Familiar Word Reading
  - Oral Reading Fluency
  - Reading Comprehension

In addition to the EGRA, A!1 administered a student questionnaire describing children's characteristics, including age, sex, native language, home conditions, and experiences at

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[1] Enumerators accepted both the sound and the name of letters in the letter identification subtask.

school. A!I derived these questions from Snapshot of School Management Effectiveness (SSME) tools. Finally, A!I used a demographic survey, administered to EP and CRS directors, to obtain student enrollment data.

EVALUATION QUESTIONS, DESIGN, METHODS AND LIMITATIONS

The study answers two research questions.
1. What are the reading skills of students and learners at the beginning of the second year/level 1 in the EPs and CRSs served by A!I?
2. What contextual factors are associated with students' and learners' reading performance in EPs and CRSs?

To answer these questions, A!I selected a sample of EPs and CRSs in Kinshasa and the five provinces where the project intervenes. EPs and CRSs were selected randomly from the total population of private establishments supported by A!I in Year 5. Evaluators calculated the sample size to generalize results at the provincial level with an acceptable level of precision. Assessors used tablets to collect results from the EGRA and two questionnaires, then uploaded data to a secure server. U.S.-based evaluators managed, cleaned, and analyzed data using two types of analysis. Descriptive analyses were conducted to calculate means, percentages, and frequencies; inferential analyses were conducted to identify correlations between selected variables and EGRA outcomes. The results of all analyses are presented in this report.

FINDINGS

Five principal findings emerged from this study.

1. **Greatest ability found on letter identification**. On the national language portion of the EGRA, children performed best on the letter identification subtask. Scores ranged from four correct letters per minute (CLPM) for the CRSs in Kinshasa to 19 CLPM for establishments in North Kivu.
2. **Performance trailed on the other four subtasks.** Compared to letter identification, children's performance on the other four national language subtasks was weak. Children had low mean scores, and the proportions of non-performers—children with zero scores—were high, ranging from 46 to 100 percent.
3. **Highest and lowest performers**. Learners in North Kivu had the highest mean scores and lowest proportions of zero scores of all provinces assessed, on both national language and French language subtasks. Kinshasa and Equateur lagged, with the highest proportions of zero scores of all provinces.
4. **EP students and CRS learners performed comparably.** In contrast to other EGRAs conducted by A!I, this EGRA found that overall, children in EPs and CRSs performed comparably. Two exceptions were found to this pattern: (1) Learners in Nord Kivu (CRSs only) outperformed children in EPs and CRSs in all other provinces, and (2) CRS learners outperformed EP students on the ORF subtask of the French EGRA.
5. **Boys and girls performed comparably.** In contrast to findings from other EGARs and the quarterly assessments, where boys tended to perform better than girls, boys and girls performed comparably on this EGRA.
6. **Factors predicting stronger performance**. Analysts identified several characteristics as predictive of reading performance on the national language portion of the EGRA. These include attending preschool, attending a CRS, being older, having a positive reading culture at home, speaking the same language at home and

school, and feeling safe at school. Each variable was only predictive in one national language. Similarly, three characteristics predicted reading performance on the French language portion of the EGRA. These include speaking French at home, attending a CRS, and having a father who knows how to read.

DISCUSSION

- **In spite of overall low scores, some variation was found.** With the exception of the letter identification subtask, results on the national language and French portion of the EGRA were extremely low. This is to be expected since EGRA typically captures student performance at the end of Grade 2 and this EGRA was administered at the beginning of Grade 2. Nevertheless, even within the ranges of low scores, enough variation was found to be able to identify predictors of performance based on group membership (e.g., boys vs. girls, EP vs. CRS) and contextual factors (e.g., French at home, safety at the EP or CRS).

- **North Kivu had a relatively strong performance.** The comparably high scores of the CRS learners in North Kivu—almost double those of their peers in other provinces—raises the question of what is different about these establishments or learners? Possible reasons include children's age, teachers' encouragement, homework practices, and reading culture at home, as well as other factors.

- **Kinshasa's relatively weak performance.** Children in Kinshasa performed worse than their peers in the provinces. This is peculiar, since in many countries, children in the capital city often perform better than their peers in the provinces due to higher socioeconomic status (SES), greater exposure to media, and other factors. There may be two explanations for this anomaly. First, in this EGRA sample, schools in Kinshasa are mostly rural, while all of the schools in the provinces are urban and peri-urban. Thus, provincial schools' urbanicity may explain their relatively stronger performance. Second, by design, the EPs and CRSs in Kinshasa hail some of its most disadvantaged neighborhoods, where learning conditions may be more difficult than those of their peers in provincial schools.

- **Results for girls and boys are not very different.** Previous A!1 assessments found that girls' performance lagged that of boys as early as Grade 1.[2] Yet in this EGRA, girls and boys performed comparably in most cases. This raises the question of whether these differences in trends are due to a different sample, a different type of establishment—state-sponsored versus non-state—or other factors.

- **Findings sometimes aligned with expectations, but not always.** In some instances, questionnaire results align with expectations. For example, the languages spoken at home tended to align with the official national languages for each province. However, other results did not align with expectations. For example, children who speak their province's national language at home did not always score higher on the national languages subtasks: Ciluba-speaking children did, but Lingala- or Kiswahili-speaking children did not. While reasons are unclear, limited sample sizes might account for some of these anomalies.

RECOMMENDATIONS

Intervention-related recommendations

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[2] See for example *Evaluation, Quarterly Assessment, Third Trimester 2017-18*, p. 10. Accelerating Equitable Access to School, Reading, Student Retention, and Accountability in the Democratic Republic of the Congo. USAID/Accelere!1. Report prepared by School-to-School International. July 2018.

1. **Focus on building foundational skills for comprehension.** While children were, to some degree, able to recognize letters, their performance dropped off on the other tasks, and comprehension was near-zero. Therefore, teachers should focus on comprehension-building skills: vocabulary building, familiar word reading, decoding, and reading fluently.
2. **Compensate with additional support for Kinshasa and Equateur.** Because Kinshasa had the lowest mean scores, and Kinshasa and Equateur had the highest zero scores in comparison to the other provinces, A!1 should consider providing additional support in Kinshasa and Equateur to improve their children's performance.

Research-related recommendations
3. **Investigate reasons for the stronger and weaker performance.** North Kivu learners performed better than their peers in other provinces, A!1 should examine factors that might explain these differences. Nord Kivu learners are older than their peers, for example. Other differences might include time CRSs have been exposed to A!1 interventions and management practices that may differ between CRSs and EPs. In the same vein, reasons for the relatively poor performance of children in Kinshasa and Equateur should be investigated.
4. **Investigate equity concerns in Equateur**. Analysts found statistically significant differences in girls' and boys' performance in Equateur. Researchers should therefore examine why boys outperform girls in this region.
5. **Explore whether other studies corroborate this study's findings**. Researchers should examine whether factors that predicted reading outcomes found in this EGRA align with findings from other project EGRAs. These factors include preschool attendance, establishment type, child's age, home reading culture, language at home, safety, attending a CRS, and having a father who knows how to read.
6. **Consider conducting follow-up measures on a limited basis.** Although a full endline EGRA is not part of the A!1 program design, the results presented in this report could serve as a reference against which A!1 might follow up on a limited basis.

PROJECT BACKGROUND

Accelerating Equitable Access to School, Reading, Student Retention, and Accountability is a project funded by the United States Agency for International Development (USAID). The project consists of four activities. The first activity (A!1) provides direct support to the education sector; the others provide support for the policy, monitoring, and vulnerable children. The Early Grade Reading Assessment (EGRA) described in this report falls under A!1, which aims to achieve three 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.

To achieve these results, USAID launched A!1 in 2015, and, for the next four years, the project provided educational support to public primary state schools in eight provinces in the Democratic Republic of the Congo (DRC). Then in March 2019, after the release of the 2019 Trafficking in Persons Sanctions memo from the President[3], USAID instructed the A!1 project to redirect its support from schools in the public sector to schools in the non-state sector. In response, A!1 shifted its support to two types of non-state establishments— private primary schools, known as *écoles privées* (EP)*,* and private accelerated learning centers, known as *centres de rattrapage scolaire* (CRS). During the fifth year of the project, A!1 targeted EPs and CRSs in six provinces: the Lingala-phone provinces of Equateur and Kinshasa; the Ciluba-phone province of Kasai Central; and the Kiswahili-phone provinces of Haut-Katanga, North Kivu, and South Kivu.

During the summer of 2019, A!1 decided to conduct an EGRA in these newly served EPs and CRSs. Initially, A!1 planned to conduct a pre-test of a sample of establishments in October and a post-test in May to measure progress over the course of Year 5. In time, A!1 decided to limit the EGRA to an October administration with the purpose of providing information about this population's reading levels to the project, USAID, the DRC Ministry of Education, and education stakeholders. School-to-School International (STS), a subcontractor for A!1, led the administration of this EGRA. For further information, see Annex I.

EVALUATION PURPOSE & QUESTIONS

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[3] *Presidential Memorandum for the Secretary of State*. November 29, 2018.

EVALUATION PURPOSE

This EGRA provides information on a population that USAID and A!I is beginning to support: EPs and CRSs in the non-state sector in the DRC. The need for this information resulted from a decision to suspend the use of U.S.-government funds to support the Congolese government due to concerns about human trafficking (see Project Background). Until that time, USAID had supported public education in the DRC, most recently through its funding of the A!I project. When the suspension was announced, A!I was required to cease providing support to the state-sponsored schools. Subsequently, USAID received approval to support non-state efforts in the DRC, and accordingly A!I shifted its focus from state schools to private EPs and CRSs.

Because this population was new, USAID and A!I wanted to learn about these children's reading skills and the conditions in these establishments that might help or hinder the project's success. Specifically, USAID and A!I intended to produce a "profile" of children and learning contexts—information that would help A!I during the fifth year of its program and USAID in its ongoing planning. Other audiences for this information include the DRC's Ministry of Education and education partners interested in supporting non-state sector education.

EVALUATION QUESTIONS

The study answers two primary research questions, each with subquestions.

1. What are the reading skills of students and learners at the beginning of the second year/Level 1 in the private schools and CRSs served by A!I?
   a. What are the differences in performance between students in EPs and learners in CRSs?
   b. What are the differences in performance between girls and boys?
   c. What are the differences in performance by province?
   d. How do children perform on National Language subtasks compared to ones in French?
2. What are the contextual factors associated with students' and learners' reading performance in schools and CRSs?
   a. Do learner characteristics—sex and age—predict performance?
   b. Does the type of school predict performance?
   c. Do conditions at school predict performance?
   d. Does the home environment predict performance?

EVALUATION METHODS & LIMITATIONS

SAMPLING APPROACH

This evaluation used a three-stage stratified clustered sampling design. The sampling frame included the population of EPs and CRSs served by A!I in five provinces and Kinshasa. The first stage of the sampling consisted of selecting a random list of establishments from the five provinces and from Kinshasa, where A!I had targeted three disadvantaged communes for intervention. Evaluators stratified the sampling by type of establishment—EP and CRS—to

facilitate comparisons. The second stage consisted of selecting one Grade 2 class from EPs or Level 1 class from CRSs at each selected establishment. This selection was random. The third and final stage consisted of selecting at random six girls and six boys from the sampled classroom. Therefore, the sampling at the third level was stratified (Figure 1).

Figure 1: Three-stage Stratified Cluster Sampling Design
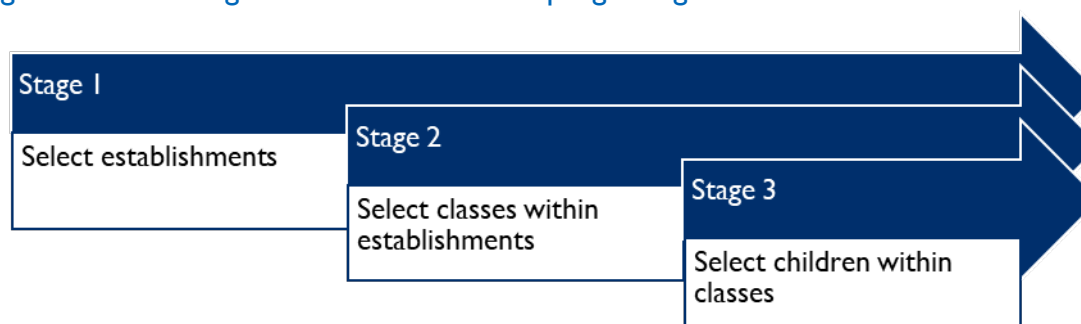
Evaluators selected this sampling approach and quantities to generalize results with sufficient precision to the provincial level—95 percent confidence interval, 5 percent margin of error.

POPULATION SAMPLED

A total of 187 establishments—120 EPs and 67 CRSs—were drawn for the sample. Of these, evaluators reached 103 percent of EPs—four more than targeted—and 96 percent of CRSs. In four cases, CRSs could not be reached in Kinshasa and Equateur although another was added in South Kivu (see Limitations).

Table 1: Sampled EPs and CRSs Included and Reached

Language	Province	EPs				CRSs			
		# targeted	# reached	Difference	% reached	# targeted	# reached	Difference	% reached
Lingala	Kinshasa	30	33	+3	110.0%	13	10	-3	76.9%
	Equateur	30	30	0	100.0%	14	13	-1	92.9%
Ciluba	Kasai Central	30	30	0	100.0%	16	16	0	100.0%
Kiswahili	Haut-Katanga	30	31	+1	103.3%	7	7	0	100.0%
	North Kivu	-	-	-	-	9	9	0	100.0%
	South Kivu	-	-	-	-	8	9	+1	112.5%
Total		120	124	4	103.3%	67	64	-3	95.5%

Evaluators targeted 12 children—six boys and six girls—per establishment for a total of 2,244 children to participate in this EGRA. Of those, evaluators reached 2,131 children, or 95 percent of the targeted sample. Half (50 percent) of the sample were girls (Table 2).

Table 2: Girls and Boys Targeted and Reached

Language	Province	EP students				CRS learners			
		# targeted	# reached	% reached	% girls reached	# targeted	# reached	% reached	% girls reached
Lingala	Kinshasa	360	393	109.2%	50.4%	156	96	61.5%	62.5%
	Equateur	360	334	92.8%	48.8%	168	137	81.5%	49.6%
Ciluba	Kasai Central	360	337	93.6%	46.3%	192	181	94.3%	49.7%
Kiswahili	Haut-Katanga	360	359	99.7%	50.1%	84	82	97.6%	53.7%
	North Kivu					108	108	100.0%	59.3%
	South Kivu					96	104	108.3%	50.0%
Total		1440	1423	98.8%	49.0%	804	708	88.1%	53.4%

LIMITATIONS

The following limitations should be kept in mind while reviewing EGRA results.

- **Generalization limited to the A!I intervention establishments**. The sample for this EGRA was randomly drawn from the total list of non-state establishments served by A!I in Year 5 of the project's implementation. Because A!I purposefully selected EPs and CRSs for inclusion in its intervention, results from the EGRA can only be generalized to establishments served by A!I, not all EPs or CRSs in the five provinces and Kinshasa.
- **A snapshot, but not change over time**. A!I's initial design called for a pre-test and post-test EGRA to be administered at the beginning and end of the 2019–20 academic year to capture change in children's learning over time. However, A!I subsequently decided to assess only at the beginning of the year. Thus, results from this EGRA are not a baseline; instead they provide a snapshot of children's ability.
- **Some CRSs were unable to participate.** After the start of data collection, educators informed A!I that CRSs in certain provinces would not open until after the evaluators' scheduled visits. Data collection teams did their best to reschedule the visits; however, in two instances, the CRSs were still not open. In two other instances, evaluators could not administer the EGRA due to internal conflict within the CRS and the center's director not consenting to the administration.
- **Limited statistical power.** Two factors limited the statistical power of this study. First, for logistical and budgetary reasons, sample sizes were small. Second, the administration of the EGRA at the beginning of Grade 2 and Year 1 understandably resulted in a floor effect, limiting variation in children's responses on some subtasks. In spite of these two factors, several statistically significant differences between groups were detected between learner characteristics and reading outcomes. To make the detection of correlations possible, analysts focused on subtasks with lower zero scores and thus larger amounts of variance, such as the letter identification subtasks and French oral reading fluency subtask.

WEIGHTS

Analysts calculated EGRA results by including sampling weights. These weights correct for instances where some members of the population are more likely to be selected than others. For example, if an enumerator wishes to select 12 students and goes to class A and finds that the class only has 12 students, she will select all the students; thus, each student will have a 100 percent probability of being selected. However, if the enumerator goes to class B with 100 students, each of these students will have a much smaller probability of being selected. If class A is systematically different from class B—for instance, all the students are older—this will bias the results in favor of older students. In this instance, sampling weights ensure each group represents the whole group equally. Sampling weights are calculated by multiplying the inverse of the student's probability of being selected—12/100 in the case of class B.

For this EGRA, analysts computed the probabilities of selection for each establishment based on the sampling frame provided by the project. In addition, analysts collected information on the number of classrooms and the number of children enrolled at each sampled EP or CRS. Based on these numbers, analysts computed the probabilities of selection for each classroom and child per establishment.

TOOLS

Four tools were used for this assessment, with several subtasks for each EGRA tool.

1. EGRA: National Language
   - Letter Identification
   - Familiar Word Reading
   - Nonword Reading
   - Oral Reading Fluency
   - Reading Comprehension
2. EGRA: French Language
   - Familiar Word Reading
   - Oral Reading Fluency
   - Reading Comprehension
3. Student Questionnaire
4. Demographics Survey

EGRA TOOL DEVELOPMENT

The tool development process started with the review of the EGRA instruments used by A!I for the EGRA administered in 2018. RTI International initially developed these tools for A!I's baseline in 2015; A!I used the tools in monitoring exercises in 2017 and 2018.

For the 2019 EGRA, each child was assessed both in the national language of their province and in French. Evaluators included the French-language portion because, in many countries, parents often send their children to non-state schools in order to study in the country's dominant language—in this case, in French.[4] If that trend held true in the DRC, then a

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[4] Akkari, A. and Coste, D. *Les langues d'enseignement entre politiques officielles et stratégies des acteurs.* Journals.openedition.org. Available at: https://journals.openedition.org/lectures/21153 [Accessed 7 Jan. 2020].

national-language assessment might not capture children's full reading ability. Thus, A!I added French-language subtask to ensure the assessment captured all reading skills.[5]

In 2019, evaluators retained five national language subtasks and three French-language subtasks from the original EGRA tool. Each subtask measured skills children should acquire in Grades 1 and 2 in EPs and Level 1 in CRSs. Subtasks assessing the child's ability to identify letters, read familiar words and nonwords, and read a short text were designed to measure accuracy—number of correct answers—and fluency—the speed with which the student or learner answered correctly. Thus, these subtasks were timed. The reading comprehension subtask, in contrast, was designed to measure accuracy only; it was not timed. See Annex II for a description of each EGRA subtask.

Experts reviewed EGRA items and administration protocols for the national-language instruments according to the *Early Grade Reading Assessment (EGRA) Toolkit: Second Edition*.[6] Experts in each national language—Lingala, Ciluba, and Kiswahili—reviewed their respective tools and recommended changes to ensure clarity and correctness of language, instructions, and items. Members of A!I team working on the quality component and monitoring and evaluation efforts then reviewed these recommendations and made appropriate changes. See Annex III for changes made to the tools and processes used to arrive at these decisions.

In addition to the national-language and French-language subtasks, evaluators used two data collection tools derived from the Snapshot for School Management Effectiveness (SSME)—a collection of tools designed to capture contextual factors related to children's learning. The first tool, a student questionnaire, captured demographic information about each child, such as age, sex, language, home conditions, and experiences in the classroom. Evaluators adapted this tool in consultation with A!I's implementation teams to ensure it collected information useful to the project. Assessors administered the student questionnaire to each child following the EGRA. The second tool was a brief survey administered to EP and CRS directors to capture demographic factors about the establishments, such as enrollment levels.

For further information, see Annex IX.

QUALITY OF ASSESSMENT TOOLS

Because A!I had used this EGRA for previous data collections conducted in 2015, 2017, and 2018, evaluators considered it of sufficient quality for use in 2019 without piloting.

DATA COLLECTION AND ANALYSIS

Evaluators recruited and trained enumerators from all provinces in September. Training for data collection occurred in two stages—a training of master trainers followed by the training of enumerators. Enumerators collected data from September 26 to October 23, 2019, in all provinces using tablets. Once enumerators uploaded data from tablets to a secure server, a U.S.-based team organized, cleaned, and analyzed that data using SPSS, Stata, and Excel software. The team conducted three types of analyses. First, item statistics

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[5] During the project's initial Rapid Needs Assessment, EP and CRS directors reported that they followed the national curriculum, which includes the teaching of early grades in local language. However, A!I has not yet assessed the extent to which teachers use national languages in early grade reading instruction in the classroom.

[6] USAID. March 2016. Prepared by Research Triangle International, Inc.

and test quality were examined (See *Test Quality*). Second, descriptive analyses were conducted to identify counts and calculate frequencies or percentages. Finally, inferential analyses were used to identify the significance of the difference between groups and subgroups—for instances, boys verses girls—and to run correlations and regressions to identify factors that predicted performance. Where statistically significant differences were detected, effect sizes were calculated (See Findings)**.** See Annex IV for a full explanation of training for data collection, the process of data collection, and data analysis strategies used.

TEST QUALITY

Cronbach Alpha
Cronbach's alpha is a statistical test that measures the extent to which several items measure the same construct. It answers questions such as "Do the letters in the letter identification subtask measure the same skill to the same extent?" If they do, their Cronbach alpha score will be high. A score of 0.7 and above is considered sufficient for this measure.

On this EGRA, Cronbach's alpha scores were high on all subtasks for all languages, with two exceptions. The Ciluba-language EGRA scored 0.6. The reading comprehension subtasks for Ciluba, Kiswahili and French also scored below 0.7, probably due to the small number of children able to respond to these questions.[7]

Table 3: Cronbach's Alpha Results by Subtask

Subtask	Lingala	Ciluba	Kiswahili	French
Letter identification	0.96	0.95	0.94	n/a
Familiar word reading	0.995	0.6	0.98	0.98
Nonword reading	0.99	0.78	0.94	n/a
Oral reading fluency	0.97	0.99	0.99	0.98
Reading comprehension	0.72	0.49	0.63	0.51

Point-biserial Analysis
Point-biserial analysis—also called item-total correlation—indicates if an item discriminates between higher- and lower-performing children. For example, if stronger readers tend to identify more difficult letters correctly, the item discriminates well. However, if weaker readers identify the more difficult letter correctly, there is something wrong with the item. A point-biserial score of 0.2 or above is considered acceptable for assessments such as this EGRA.

On this EGRA, most items met or exceeded the 0.2 thresholds. In a few instances, scores fell below 0.2, including some negative figures. However, for the purposes of this analysis, evaluators decided to retain all items for two reasons. First, the incidence of these cases was rare. Second, in many instances, proportions of zero scores were high, so evaluators judged that the value of keeping all available results greater than the danger that eliminating these results would leave too few cases for analysis (see Annex V).

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[7] As presented in the Findings section, almost no children responded to even one question correctly on the reading comprehension subtask.

Consistency Within and Across Tools

Evaluators conducted an analysis to determine the level of consistency across subtasks (see Annex VI). A statistically significant correlation between subtasks indicates that the subtasks are related and therefore measure a common construct—in this case, reading in a given language. The higher the score, the stronger the correlation, with 1.0 indicating a perfect correlation. For example, on the Lingala-language EGRA, the oral reading fluency (ORF) and reading comprehension subtasks were strongly correlated at 0.8. This means that in most cases, children with higher ORF scores had higher scores in reading comprehension on the Lingala EGRA.

This analysis also showed relatively weak correlations between letter identification and reading comprehension, regardless of language. Therefore, the other subtasks—familiar word reading, nonword reading, and ORF—were found to be better predictors of reading comprehension than letter identification.

Finally, these correlations were only true within languages; correlations **between** the national language subtasks and French language subtasks were generally weak. In other words, a child who scored high on the national language familiar word subtask did not necessarily score high on the same subtask on the French language portion of the EGRA. Children tended to perform well in **either** in national language reading **or** in French language reading, but not both. This suggests that reading skills observed in one language do not necessarily transfer to another.

Face Validity

Validity indicates the extent to which an assessment measures what it intends to measure, and the extent to which results are used appropriately and ethically. One type of validity is face validity, or the appearance of validity, determined by a review of results and contextual factors typically conducted by experts.

Results from EGRAs suggest a high level of face validity—comparative levels of performance in this EGRA mirror findings from previous EGRAs. For example, the 2018 A!1 Monitoring EGRA found the strongest performance in North Kivu. The same was found in this EGRA. The student questionnaire also suggests a high level of face validity. For example, most children reported speaking the same language at home as the one designated as the national language for their province; this fits with the project's assumption that children would be familiar with their national language. Similarly, the lowest proportion of children who reported feeling safe at EP or CRS was found in Kasai Central—a province known for comparatively high levels of insecurity. While a more in-depth validity-testing exercise—for instance, an expert review—could confirm these findings, these results suggest a high level of face validity to the student questionnaire.[8]

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[8] Validity or reliability measures were not conducted for the demographic survey. Data from this tool are being provided directly to A!1 for management purposes.

FINDINGS, RESEARCH QUESTION 1

Research Question 1: What are the reading skills of students and learners at the beginning of the second year/level 1 in the EPs and CRSs served by A!1?

Each child was assessed with the EGRA tool first in their province's national language—Lingala, Ciluba, or Kiswahili—then in French. This section presents the results for the national language subtasks—letter identification, familiar word reading, nonword reading, ORF, and reading comprehension—by language group, disaggregated by type of establishment and sex. Results for the provinces of Kinshasa and Equateur are reported separately because A!1 assumes the type of Lingala spoken in Kinshasa is different from that spoken in Equateur.

Three types of results are reported. First are fluency rates that indicate the number of letters, words, or nonwords that a child can identify in one minute. Fluency rates are reported for the letter identification, familiar words, nonword reading, and ORF subtasks. Second, the percentage correct is reported for the comprehension subtask by dividing the number of questions a child was able to answer correctly by the total possible number of questions—five. Third, zero scores are reported, indicating the proportion of children who did not give at least one correct answer on a subtask.

A note about comparing results across languages: This report presents results by the language of assessment. Importantly, mean scores are not presented across languages because, given the unique features of each language, learning to read can vary in difficulty from one language to the next. Thus, such comparisons are inappropriate in the absence of linking methods. However, zero scores can be compared across languages.[9] Where useful, these comparisons are presented.

A note about effect sizes: Where statistically significant differences were found between subgroups, effect sizes were calculated to show the magnitude of these differences. Effect sizes indicate the strength of a difference—even if a statistically significant difference is detected, it can be weak, medium, or strong. Analysts consider difference of 0.2 as a small effect size, 0.5 as medium, and 0.8 and above as large. Cohen's d analysis was used to calculate effect sizes (see Annex IV).

A note about the statistical significance of difference: This section states when differences are statistically significant. All results are reported, even if determined to be not statistically significant.

KINSHASA: LINGALA-LANGUAGE SUBTASKS
Following are the results from the Lingala portion of the EGRA for children living in Kinshasa.

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[9] See for example https://earlygradereadingbarometer.org/egypt/comparisons

Mean Scores

In Kinshasa, children identified between four and six letters by name or sound, on average. However, on all other subtasks, children scored near zero, reading less than one single familiar or nonword per minute on average (Figure 2: EGRA Mean Scores on National Language Subtasks, Kinshasa
). When presented with a story, children averaged between 0.5 words per minute in EPs and 1.3 words per minute in CRSs. Statistically, scores were comparable across EPs and CRSs—only nonword reading was statistically different, slightly in favor of CRSs. Almost no children responded correctly to even one reading comprehension question.

Note that the graphics in this report include one place after the decimal, which does not capture incidents where a small number of children—registering less than 0.0—answered questions. For example, in Figure 2 reading comprehension reads 0.0; however, two students in EPs and three learners in CRSs answered at least one question correctly, as indicated in the zero scores graphic in Figure 4.

Figure 2: EGRA Mean Scores on National Language Subtasks, Kinshasa
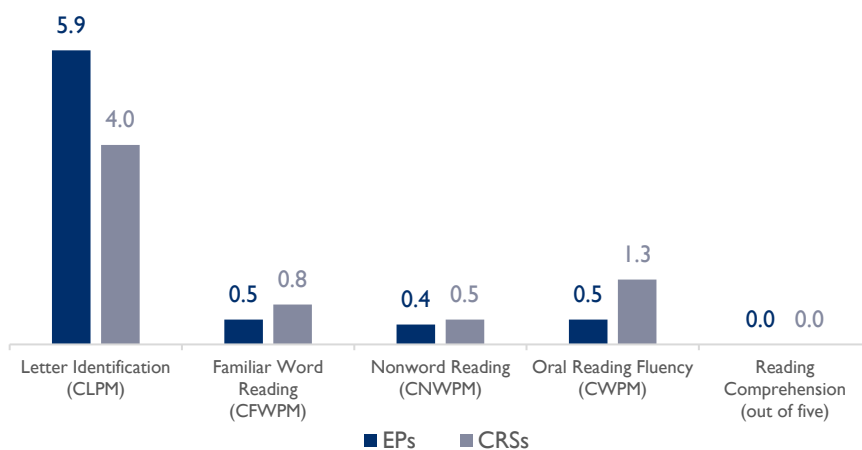
Except for letter identification, scores are near zero in Kinshasa.

Note: n=30 EPs, 393 students; 16 CRSs, 96 learners

Scores of girls and boys in Kinshasa—EPs and CRSs combined—were comparable on all subtasks. No statistically significant differences were found between the two groups.

Figure 3: EGRA Mean Scores on National Language Subtasks by Sex, Kinshasa
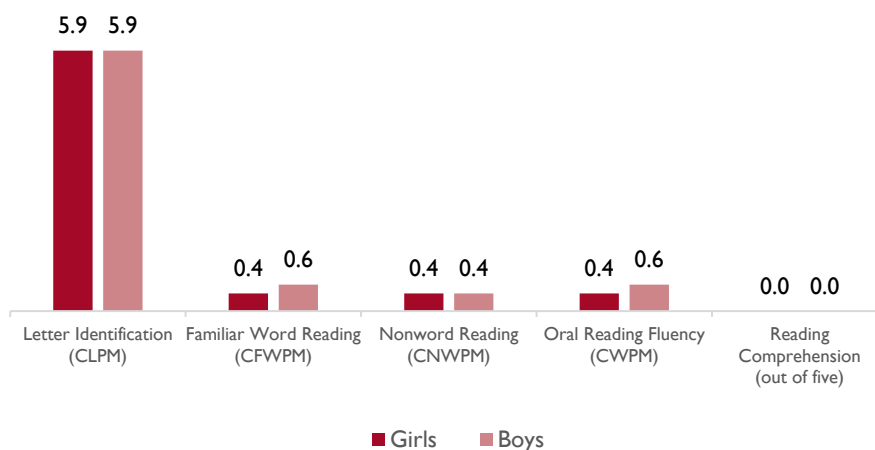
Boys and girls performed comparably in Kinshasa.

Zero Scores

In Kinshasa, more than half of the children in EPs and CRSs identified at least one letter correctly, meaning that less than half had zero scores on this subtask. EP students fared slightly better, with fewer (35.9 percent) receiving zero scores compared to 45.3 percent of CRS learners. On the other four subtasks, zero scores clustered between 90 and 100 percent. None of the differences between EPs and CRSs were statistically significant.

Figure 4: EGRA Zero Scores on National Language Subtasks, Kinshasa

	EPs	CRSs
Letter Identification	35.9%	45.3%
Familiar Word Reading	91.5%	92.8%
Nonword Reading	90.4%	93.2%
Oral Reading Fluency	93.6%	93.9%
Reading Comprehension	99.6%	96.5%
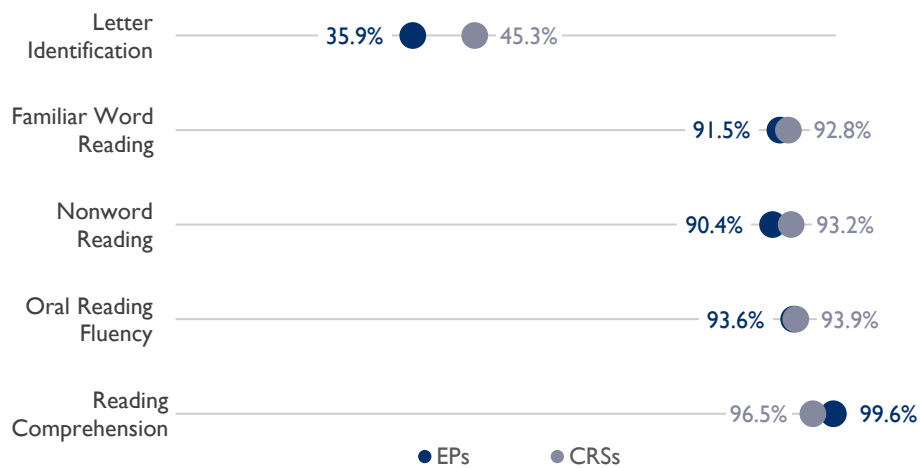
In Kinshasa, most children identified at least one letter.

Note: n=30 EPs, 393 students; 16 CRSs, 96 learners

As with their mean scores, no statistically significant differences were found between boys' and girls' zero scores in Kinshasa.

Figure 5: EGRA Zero Scores on National Language Subtasks by Sex, Kinshasa

	Girls	Boys
Letter Identification	33.9%	38.3%
Familiar Word Reading	91.8%	91.1%
Nonword Reading	90.5%	90.2%
Oral Reading Fluency	94.0%	93.2%
Reading Comprehension	99.9%	99.1%
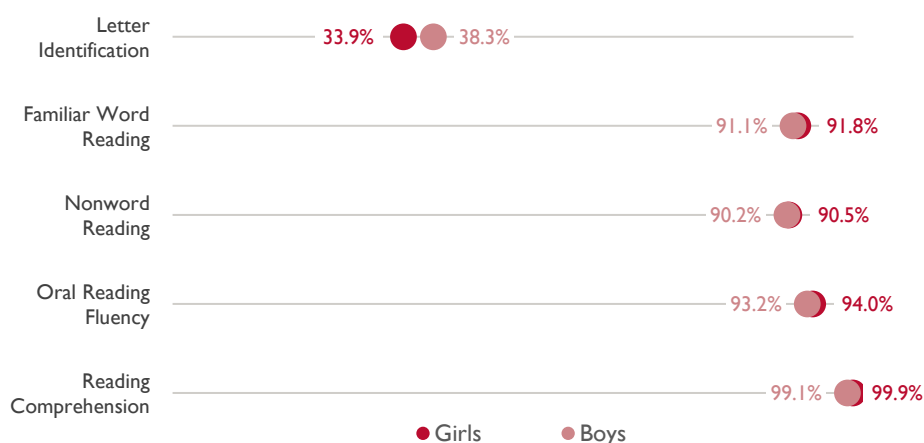
In Kinshasa, boys' and girls' zero scores were comparable.

Note: n=231 boys, 258 girls

EQUATEUR: LINGALA-LANGUAGE SUBTASKS

Following are the results from the Lingala portion of the EGRA for children living in Equateur.

Mean Scores

Children in Equateur indicated the name or sound of six to seven letters on average on the letter identification subtask. Analysts found statistically significant differences between EPs and CRSs on the other four subtasks, with CRS learners scoring higher than their EP counterparts on each. As in Kinshasa, children in Equateur did not respond, on average, to even one of the five reading comprehension questions correctly.

Figure 6: EGRA Mean Scores on National Language Subtasks, Equateur

In Equateur, all children identified at least six letters, but only CRS learners read more than one word, nonword, or word of connected text.

Note: n=30 EPs, 334 students; 13 CRSs, 137 learners.
One asterisk (*) indicates statistical significance at $p < 0.05$

In Equateur, boys performed better than girls, EPs and CRSs combined. However, the differences were only statistically significant on the familiar word, nonword reading, and ORF subtasks.

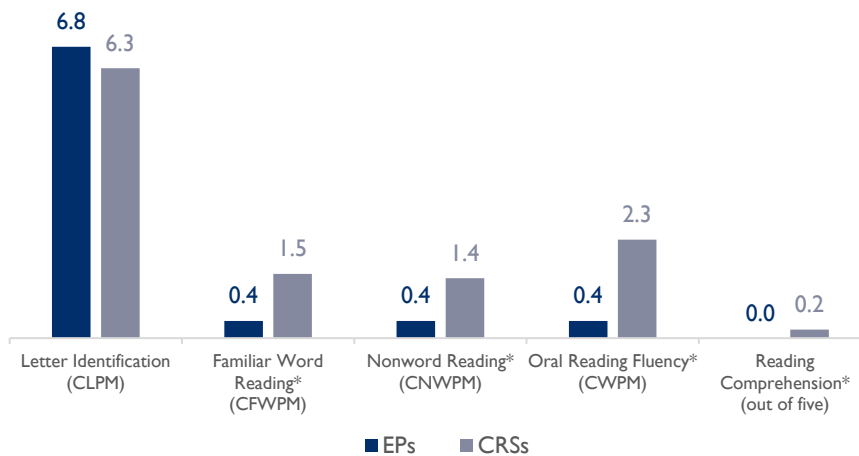Figure 7: EGRA Mean Scores on National Language Subtasks by Sex, Equateur

In Equateur, the boys were stronger on three tasks.

Note: n=30 EPs, 171 boys, 163 girls; 13 CRSs, 69 boys, 68 girls.
One asterisk (*) indicates statistical significance at $p < 0.05$

Zero Scores

In Equateur, about one-third of EP students and half of CRS learners received zero scores on the letter identification subtask, meaning that one-half or more identified at least one letter correctly. EP students fared slightly better, with fewer (30.6 percent) receiving zero scores then their CRS peers (50.9 percent); the difference was statistically significant. On

the other four subtasks, zero scores clustered between 88 and 99 percent, with statistically significant differences found on the ORF and reading comprehension subtasks in favor of CRSs.

Figure 8: EGRA Zero Scores on National Language Subtasks, Equateur

Subtask	EPs	CRSs
Letter Identification*	30.6%	50.9%
Familiar Word Reading	93.0%	87.9%
Nonword Reading	93.1%	90.2%
Oral Reading Fluency*	95.7%	88.7%
Reading Comprehension*	99.1%	92.8%

● EPs ● CRSs

In Equateur, CRS learners struggled more on letter identification; EP students struggled more on ORF and reading comprehension.

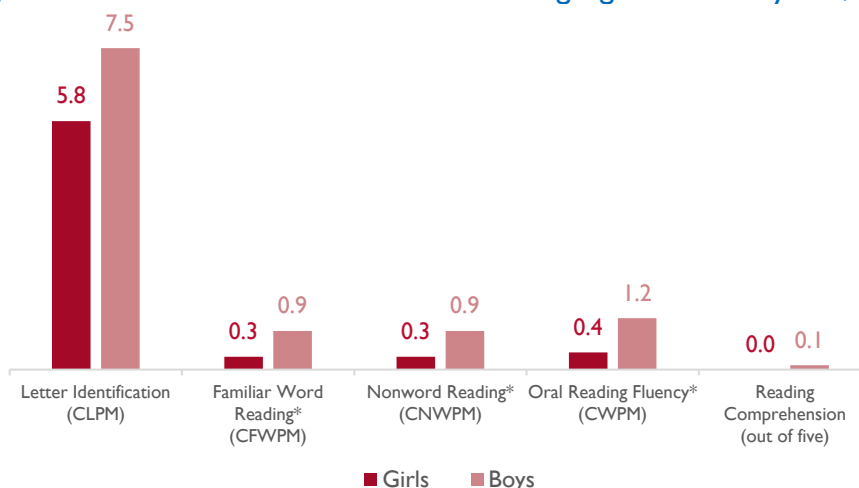Note: n=30 EPs, 334 students; 13 CRSs, 137 learners.
One asterisk (*) indicates statistical significance at p < 0.05

In Equateur, the boys' zero scores were statistically lower than those of girls on the familiar word reading and nonword reading subtasks; no statistically significant differences were found on the other subtasks. Fewer than one in ten boys and girls answered a single question correctly on the familiar word reading, nonword reading, or ORF subtask. Similarly, almost no boys or girls answered even one question correctly on the reading comprehension subtask.

Figure 9: EGRA Zero Scores on National Language Subtasks by Sex, Equateur
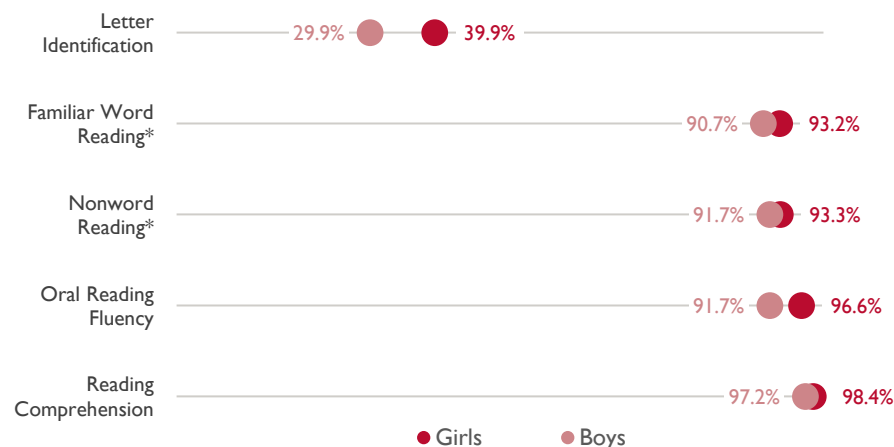
Subtask	Boys	Girls
Letter Identification	29.9%	39.9%
Familiar Word Reading*	90.7%	93.2%
Nonword Reading*	91.7%	93.3%
Oral Reading Fluency	91.7%	96.6%
Reading Comprehension	97.2%	98.4%

● Girls ● Boys

In Equateur, girls struggled more than boys on familiar word reading and nonword reading; on the other subtasks, they were comparable.

Note: n=30 EPs, 171 boys, 163 girls; 13 CRSs, 69 boys, 68 girls.
One asterisk (*) indicates statistical significance at p < 0.05

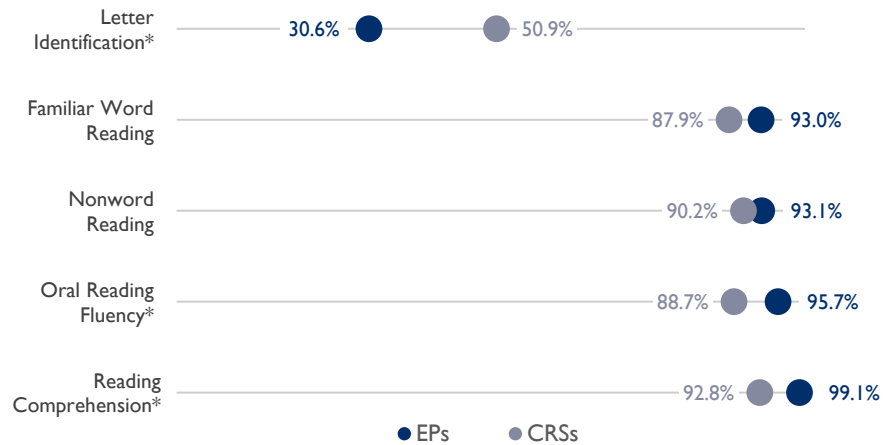## KASAI CENTRAL: CILUBA-LANGUAGE SUBTASKS
Following are the results from the Ciluba portion of the EGRA conducted in Kasai Central.

Mean Scores
In Kasai Central, scores of EP students and CRS learners were comparable on all subtasks; no statistically significant differences were found.

Figure 10: EGRA Mean Scores on National Language Subtasks, Kasai Central

Bar chart comparing EPs and CRSs:
- Letter Identification (CLPM): EPs 10.9, CRSs 9.7
- Familiar Word Reading (CFWPM): EPs 2.1, CRSs 1.5
- Nonword Reading (CNWPM): EPs 1.4, CRSs 0.9
- Oral Reading Fluency (CWPM): EPs 1.2, CRSs 1.0
- Reading Comprehension (out of five): EPs 0.1, CRSs 0.1

In Kasai Central, EPs and CRSs performed comparably.

Note: n=30 EPs, 337 students; 16 CRSs, 181 learners

In Kasai Central, girls' and boys' scores—with EPs and CRSs combined—were comparable on all subtasks. No statistically significant differences were found between the two groups.

Figure 11: EGRA Mean Scores on National Language Subtasks by Sex, Kasai Central

Bar chart comparing Girls and Boys:
- Letter Identification (CLPM): Girls 10.2, Boys 11.2
- Familiar Word Reading (CFWPM): Girls 2.0, Boys 2.0
- Nonword Reading (CNWPM): Girls 1.1, Boys 1.6
- Oral Reading Fluency (CWPM): Girls 1.0, Boys 1.3
- Reading Comprehension (out of five): Girls 0.1, Boys 0.1

In Kasai Central, girls and boys performed comparably.

Note: n=272 boys, 246 girls

Zero Scores

In Kasai Central, over three-fourths of children identified at least one letter correctly. EP students fared slightly better, with fewer (14.1 percent) receiving zero scores compared to 22.7 percent of CRS learners. On the other four subtasks, zero scores clustered between 69 and 96 percent. No statistically significant differences were found between EPs and CRSs on any subtask.

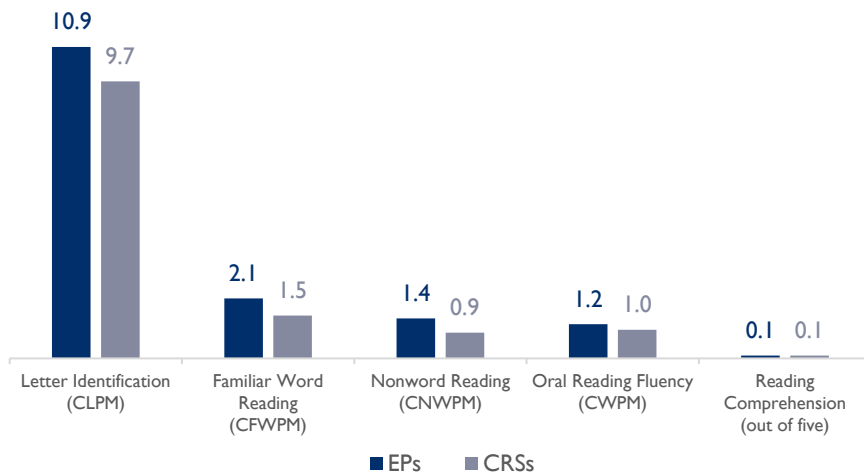## Figure 12: EGRA Zero Scores on National Language Subtasks, Kasai Central

Letter Identification: 14.1% EPs, 22.7% CRSs
Familiar Word Reading: 68.7% EPs, 80.8% CRSs
Nonword Reading: 84.3% EPs, 90.9% CRSs
Oral Reading Fluency: 79.4% EPs, 90.1% CRSs
Reading Comprehension: 93.5% EPs, 95.9% CRSs

● EPs   ● CRSs

Note: n=30 EPs, 337 students; 16 CRSs, 181 learners

In Kasai Central, children's struggles in EPs and CRSs were comparable.

Zero scores were comparable between boys and girls; analysts found no statistically significant differences between the two groups.

Figure 13: EGRA Zero Scores on National Language Subtasks by Sex, Kasai Central
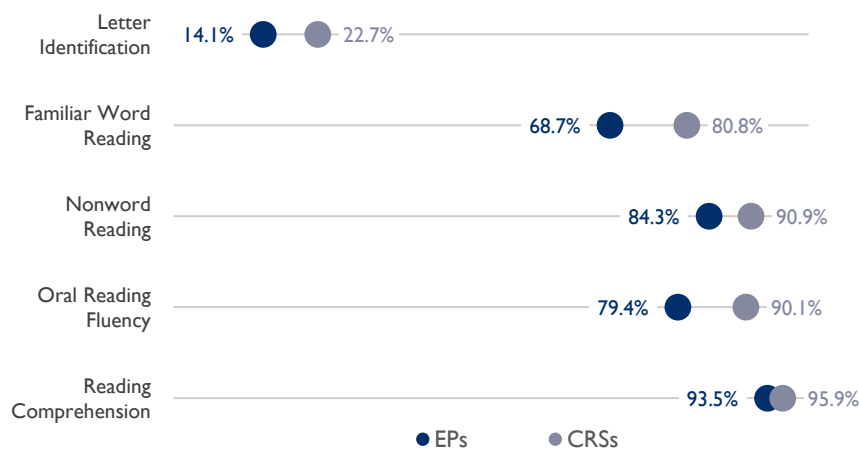

Letter Identification: 14.1% Boys, 16.5% Girls
Familiar Word Reading: 69.2% Boys, 71.5% Girls
Nonword Reading: 82.0% Boys, 88.9% Girls
Oral Reading Fluency: 79.8% Boys, 82.0% Girls
Reading Comprehension: 92.8% Boys, 95.0% Girls

● Girls   ● Boys
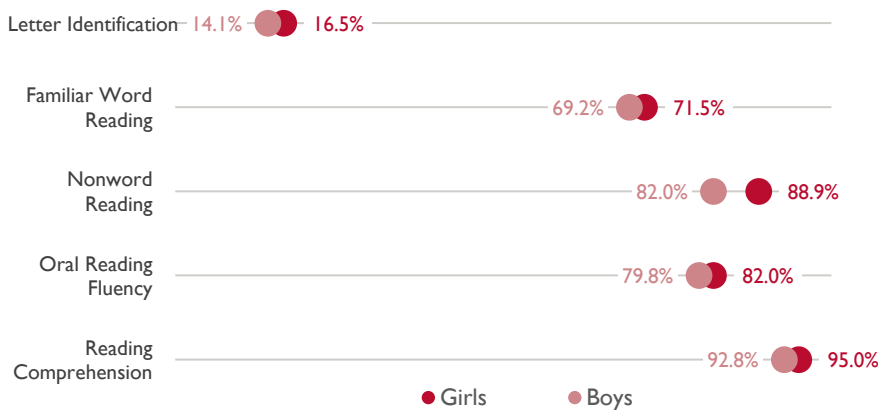
Note: n=272 boys, 246 girls

In Kasai Central, boys' and girls' struggles were comparable.

HAUT-KATANGA, NORTH KIVU, AND SOUTH KIVU: KISWAHILI-LANGUAGE SUBTASKS

Following are the results from the Kiswahili portion of the EGRA conducted in Haut-Katanga, North Kivu, and South Kivu. Only CRSs—not EPs—were included in the North Kivu and South Kivu samples.

Mean Scores

In Haut-Katanga, students in EPs scored slightly higher than did learners in CRSs on the letter identification subtask. On all other subtasks, learners in CRSs scored higher than their EP peers, although no differences were statistically significant. The strongest outcomes in the Kiswahili-phone provinces were in North Kivu, where learners scored roughly twice as high on all subtasks as did their EP and CRS peers in Haut-Katanga.

Figure 14: EGRA Mean Scores on National Language Subtasks, Kiswahili-phone Provinces

North Kivu learners appeared to score higher than their Kiswahili-phone peers on all subtasks.
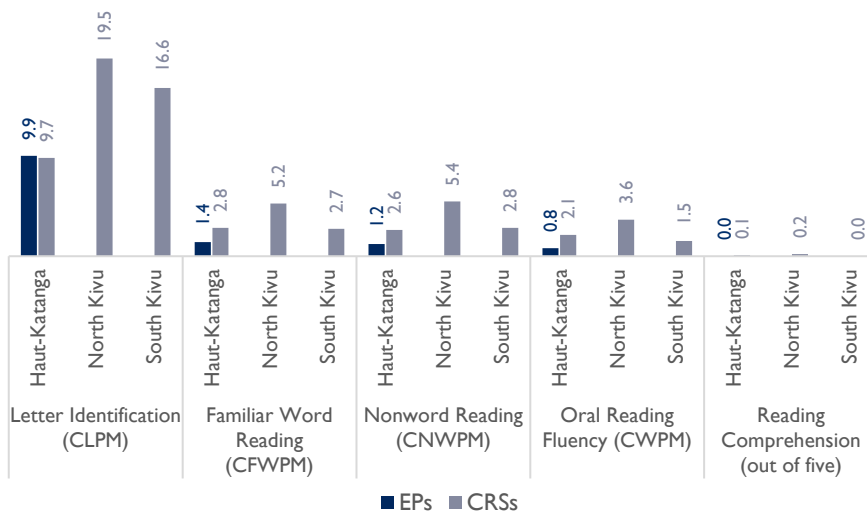
Note: Haut-Katanga: n=31 EPs, 359 students; 7 CRSs, 82 learners; North Kivu: n=9 CRSs, 108 students; South Kivu: n=9 CRSs, 104 students

Across Kiswahili-phone provinces—EPs and CRSs combined—girls' mean scores surpassed boys' mean scores on all subtasks. However, although some mean scores vary substantially—13.0 CLPM for boys compared to 19.5 CLPM for girls in South Kivu—no differences between the groups were found to be statistically significant.

Figure 15: EGRA Mean Scores on National Language Subtasks by Sex, Kiswahili-phone Provinces

Within each province, girls and boys performed comparably.

Note: Haut-Katanga: n=217 boys, 224 girls; North Kivu: n=44 boys, 64 girls; South Kivu: n=52 boys, 52 girls

Zero Scores

In Haut-Katanga, most children identified at least one letter correctly, with one in seven EP students and one in four CRSs learners receiving zero scores on the letter identification subtask. On the other subtasks, EP students in Haut-Katanga had higher zero scores than their peers at CRSs, indicating that Grade 2 students were struggling more on these subtasks than Level 1 learners .

North and South Kivu—CRSs learners only—had remarkably low zero scores on the letter identification subtask (3.2 percent in North Kivu, 8.0 percent in South Kivu). Nearly all learners identified at least one letter correctly. On the other subtasks, analysts found a greater range of zero scores than seen in other provinces—here zero scores ranged from 44 to 100 percent. No statistically significant differences were found between EP and CRS zero scores in these provinces.

Figure 16: EGRA Zero Scores on National Language Subtasks, Kiswahili-phone Provinces
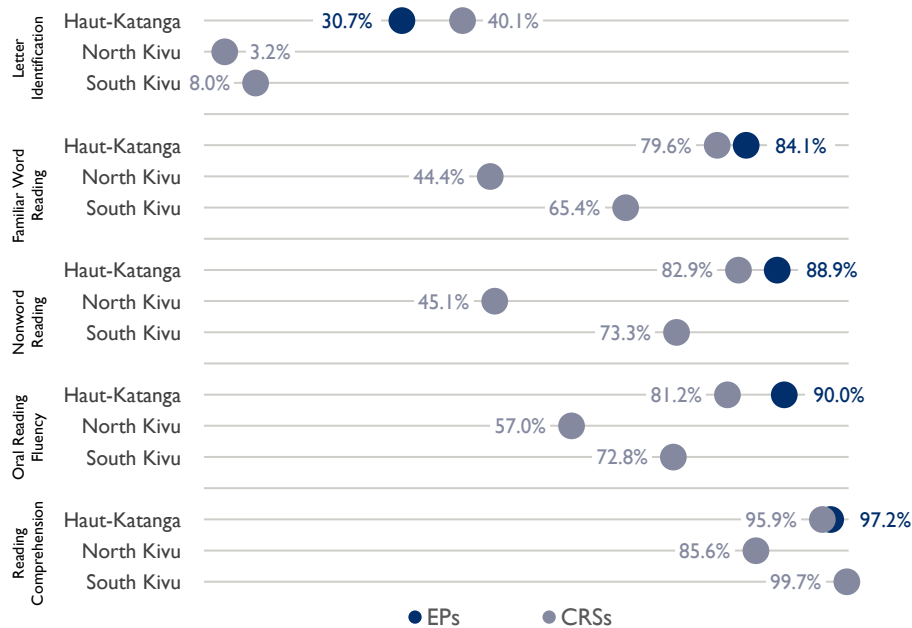
In Haut-Katanga, CRSs appeared to struggle more on letter identification; EPs struggled more on all other subtasks.

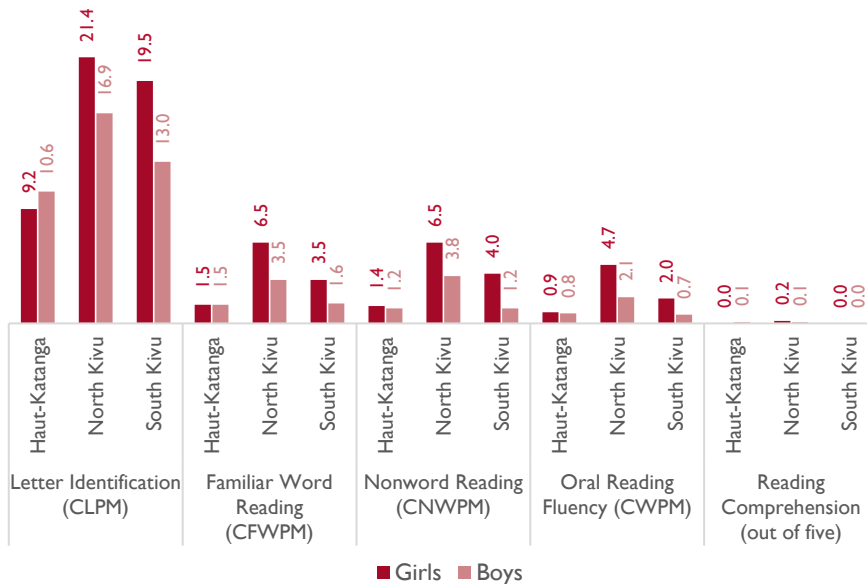**North Kivu zero scores appeared to be lower than their Kiswahili-phone peers on all subtasks.**

Note: Haut-Katanga: n=31 EPs, 359 students; 7 CRSs, 82 learners; North Kivu: n=9 CRSs, 108 learners; South Kivu: n=9 CRSs, 104 learners

Although boy's and girls' zero scores differed, differences were not statistically significant.

Figure 17: EGRA Zero Scores on National Language Subtasks by Sex, Kiswahili-phone Provinces
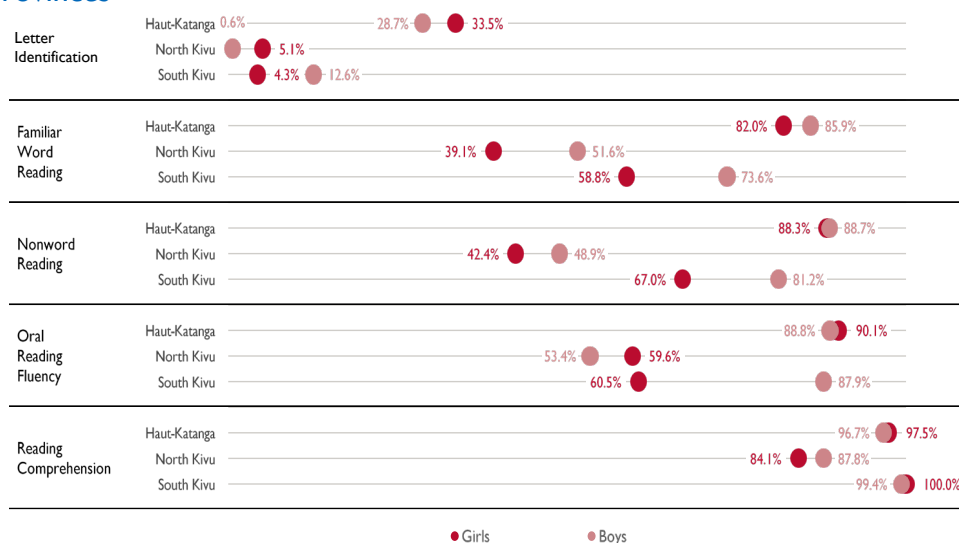
Boys' and girls' zero scores were comparable in the Kiswahili-phone provinces.

Note: Haut-Katanga: n=217 boys, 224 girls; North Kivu: n=44 boys, 64 girls; South Kivu: n=52 boys, 52 girls

FRENCH LANGUAGE SUBTASKS

After being assessed in their national language, enumerators assessed each child via three French-language subtasks: familiar word reading, ORF, and reading comprehension. This section presents the results on those subtasks for all provinces by type of establishment and by sex.

As with the national language subtasks, CRS mean scores on all three French-language subtasks were significantly higher than those of their EP counterparts in Equateur. Analysts found no other significant differences between CRS and EP mean scores in other provinces. CRS learners in North Kivu posted particularly strong results on the French language familiar word reading and ORF subtasks. Also notable on the French subtasks is the strong performance of CRS leaners in Haut-Katanga relative to other provinces.

Figure 18: EGRA Mean Scores on French Language Subtasks, All Provinces
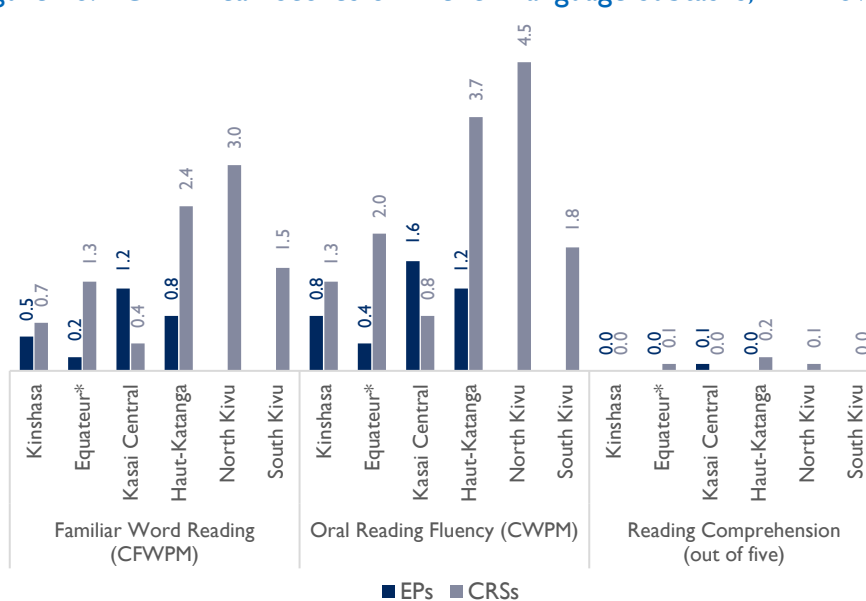
CRSs excelled in North Kivu, Haut Katanga, and Equateur.

Note: n=124 EPs, 1423 students; 64 CRSs, 708 students. One asterisk (*) indicates statistical significance at p <0.05.

On two of the French language subtasks—familiar word reading and ORF—boys performed statistically significantly better than did girls in Equateur. No other differences between girls' and boys' performance on the French language subtasks were statistically significant.

Figure 19: EGRA Mean Scores on French Language Subtasks by Sex, All Provinces

Girls ■ Boys ■

In Equateur, boys performed better than girls on two subtasks.
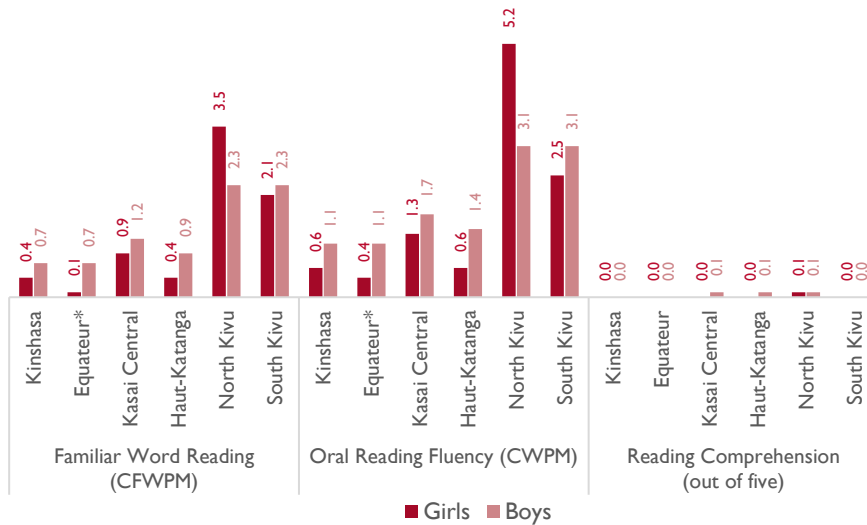
Note: n=1056 boys, 1075 girls
One asterisk (*) indicates statistical significance at p <0.05.

Zero Scores

On the French language subtasks, slightly more than half of North Kivu learners struggled on the familiar word reading and ORF subtasks—55.7 percent zero scores. In all other provinces, most children from both EPs and CRSs struggled on all three subtasks, with zero scores ranging from 75 to 100 percent. Statistically significant differences were found in two instances: in Kasai Central, EP students struggled slightly less than their CRS peers on the familiar word reading subtask, and in Equateur, CRS learners struggled slightly less than their EP peers on the reading comprehension subtask.

Figure 20: EGRA Zero Scores on French Language Subtasks, All Provinces

Familiar Word Reading
- Kinshasa: 88.8% / 89.2%
- Equateur: 92.6% / 96.2%
- Kasai Central*: 81.5% / 93.5%
- Haut-Katanga: 84.9% / 88.5%
- North Kivu: 55.7%
- South Kivu: 80.0%

Oral Reading Fluency
- Kinshasa: 84.4% / 86.7%
- Equateur: 88.9% / 92.5%
- Kasai Central: 76.8% / 86.0%
- Haut-Katanga: 77.7% / 84.7%
- North Kivu: 55.7%
- South Kivu: 74.6%

Reading Comprehension
- Kinshasa: 98.6% / 99.4%
- Equateur*: 94.9% / 99.9%
- Kasai Central: 95.6% / 97.6%
- Haut-Katanga: 88.1% / 96.8%
- North Kivu: 93.1%
- South Kivu: 99.5%
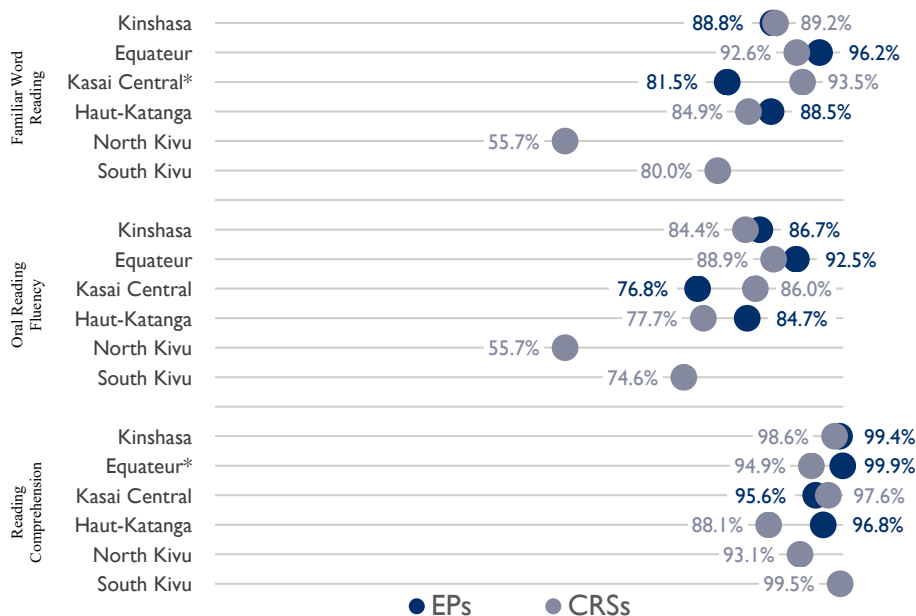
● EPs   ● CRSs

On two subtasks – familiar word and ORF - CRS learners in North Kivu struggled less than their peers.

Note: n=124 EPs, 1423 students; 64 CRSs, 708 students

No differences were found to be statistically significant between girls' and boys' performance on the French language subtasks. Even though the descriptive analysis showed

disparities up to 19 points between boys and girls, no statistically significant differences were found.

Familiar Word Reading

Province	Girls	Boys
Kinshasa	85.6%	92.0%
Equateur	94.1%	96.8%
Kasai Central	80.4%	86.2%
Haut-Katanga	86.3%	90.4%
North Kivu	50.7%	59.3%
South Kivu	71.4%	90.5%

Oral Reading Fluency

Province		
Kinshasa	86.4%	87.0%
Equateur	88.6%	94.8%
Kasai Central	77.8%	78.1%
Haut-Katanga	81.7%	87.2%
North Kivu	54.0%	58.0%
South Kivu	62.2%	89.9%

Reading Comprehension

Province		
Kinshasa	99.0%	99.7%
Equateur	98.6%	99.0%
Kasai Central	95.8%	95.9%
Haut-Katanga	95.4%	97.1%
North Kivu	91.8%	94.8%
South Kivu	98.9%	100.0%

● Girls ● Boys
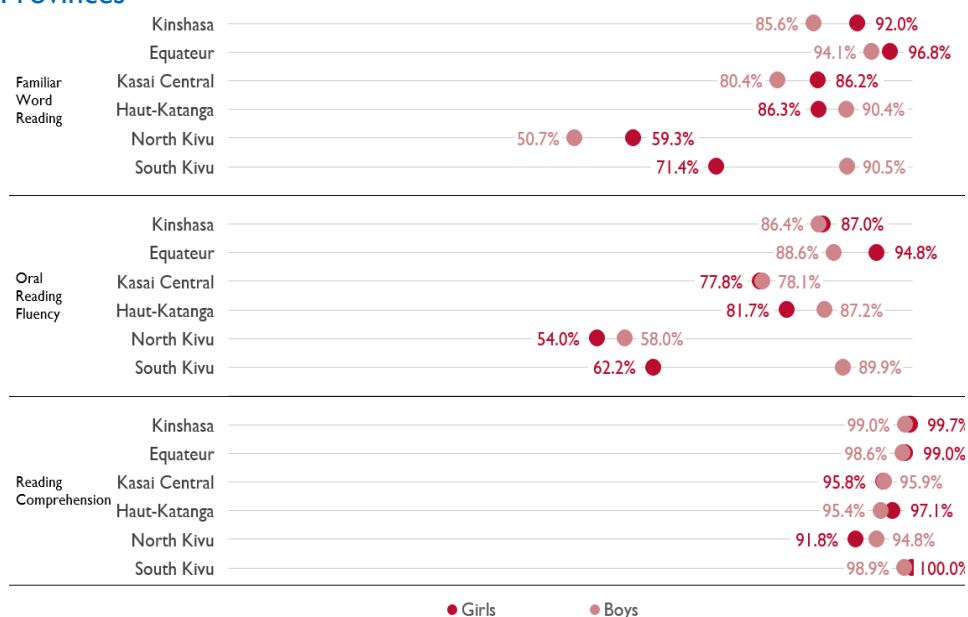
Boys' and girls' zero scores were comparable on the French language subtasks.

Note: n=1056 boys, 1075 girls

ZERO SCORES COMPARED

Comparisons of mean scores across languages are not appropriate due to the differing levels of difficulty of each language. However, comparisons of zero scores are permissible because experts hope that, by Grade 2, children can respond to at least one question correctly on each subtask. Accordingly, evaluators compared children's performance across provinces and on selected subtasks in national languages and French.

Comparison of performance across provinces

The following heatmap indicates where children struggled most across provinces (Table 4). Red represents children who struggled most—that is, where proportions of zero scores were highest. Green represents children who struggled least—where proportions of zero scores were lowest. Yellow represents the children in between.

The heatmap reveals two patterns. First, children struggled least with letter identification across provinces. Second, across all subtasks, children in North Kivu struggled least and children in Kinshasa and Equateur struggled most. However, even in North Kivu, the proportion of children with zero scores on the reading comprehension subtask remains high at 85.6 percent—that is, children are still struggling with comprehension.

Table 4: Proportion of Zero Scores by Subtask and Province, EPs and CRSs combined, National Languages

Subtask	Kinshasa	Equateur	Kasai Central	Haut-Katanga	North Kivu	South Kivu
Letter name identification	36.0%	35.0%	15.2%	31.2%	3.2%	8.0%
Familiar word reading	91.5%	91.9%	70.2%	83.7%	44.4%	65.4%
Nonword reading	90.4%	92.5%	85.2%	88.5%	45.1%	73.3%

Subtask	Kinshasa	Equateur	Kasai Central	Haut-Katanga	North Kivu	South Kivu
Oral reading fluency	93.6%	94.2%	80.8%	89.5%	57.0%	72.8%
Reading comprehension	99.5%	97.8%	93.8.%	97.1%	85.6%	99.7%

Comparison of performance on national languages and French subtasks

To determine whether children performed better on the EGRA in national languages or in French, analysts compared their zero scores on the three subtasks common to both portions of the EGRA. Figure 22 shows that no statistically significant differences were found in zero scores on reading comprehension; however, differences were found on the other two subtasks. On familiar word reading, children in the Ciluba- and Kiswahili-phone provinces struggled more with the national languages subtask than the French one. In contrast, on ORF, children in the Lingala- and Kiswahili-phone provinces struggled more with the French subtask than the national languages one.

Figure 22: Comparisons of Zero Scores between National Languages and French Subtasks, EPs and CRSs combined
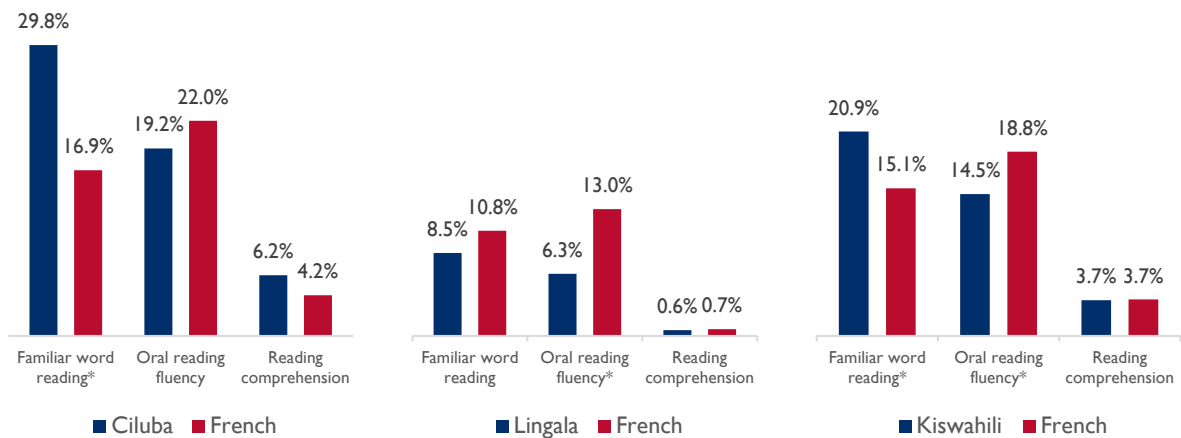
One asterisk (*) indicates statistical significance at p < 0.05

FINDINGS, RESEARCH QUESTION 2

Research Question 2: What contextual factors are associated with students' and learners' reading performance in EPs and CRSs?
Why do children perform well or poorly on the EGRA subtasks? Is it because of the type of establishment they attend—EP or CRS? Is it because of a personal characteristic, such as sex or age? Is it because of conditions at their establishment or at home?

To answer these questions, enumerators asked children about their home environment and establishment conditions. Then, analysts took three steps to examine the results. First, analysts created composites to summarize several factors. For example, socioeconomic status (SES) is a composite score of several related questions, such as ownership of a motorcycle, electricity in the home, and so forth (see Annex VII). Second, analysts conducted descriptive analyses to summarize responses in the form of scores or percentages. Finally, analysts ran regressions to identify factors that predicted stronger performance.

The next section presents the results of the descriptive analyses, followed by the results of the regression analyses.

STUDENT CHARACTERISTICS: DESCRIPTIVE ANALYSES
Table 5 is a heat map summarizing selected responses on the student questionnaire. On each line, high scores are presented in green, mid-range scores in yellow, and low scores in red. Percentages are based on the proportion of children answering "yes" on the student questionnaire. The last two lines present average scores for the French-language ORF subtask and the national language letter identification subtask as references.

Table 5: Results from Selected Student Questionnaire Questions and Subtask Average Scores, by Province and Establishment

Factor	Kinshasa EP	Kinshasa CRS	Equateur EP	Equateur CRS	Kasai Central EP	Kasai Central CRS	Haut-Katanga EP	Haut-Katanga CRS	North Kivu CRS	South Kivu CRS
Age	7.0	8.4	7.3	9.3	7.3	7.8	7.1	9.3	10.5	11.9
Percentage of girls	50.4%	62.5%	48.8%	49.6%	46.3%	49.7%	50.1%	53.7%	59.3%	50.0%
Percentage of French speakers	52.9%	15.5%	37.6%	7.1%	34.1%	9.9%	62.2%	33.5%	6.0%	20.8%
Percentage of Lingala speakers	78.3%	99.7%	85.9%	93.1%	15.6%	9.7%	9.7%	8.1%	2.1%	6.4%
Percentage of Ciluba speakers	8.3%	6.6%	4.1%	2.3%	90.8%	97.6%	14.2%	11.8%	1.5%	0.3%
Percentage of Kiswahili speakers	5.0%	1.6%	7.2%	3.2%	5.1%	7.0%	80.7%	95.4%	98.0%	98.1%

Factor	Kinshasa		Equateur		Kasai Central		Haut-Katanga		North Kivu	South Kivu
	EP	CRS	EP	CRS	EP	CRS	EP	CRS	CRS	CRS
Percentage attended preschool	45.6%	19.5%	51.9%	47.4%	49.4%	29.8%	49.3%	20.3%	3.6%	17.9%
Percentage feeling safe at school	86.4%	92.1%	92.1%	92.1%	12.5%	21.8%	89.4%	88.4%	98.4%	93.6%
Percentage present last week	62.6%	67.4%	67.3%	67.6%	71.2%	67.2%	80.6%	92.0%	59.2%	66.2%
Percentage arriving on time last week	64.0%	74.1%	70.1%	80.9%	74.2%	68.8%	80.5%	89.5%	55.6%	67.9%
SES score (0–7)	4.3	3.9	3.7	2.0	3.5	1.9	4.3	3.7	3.2	3.1
Oral Reading Fluency, French (CWPM)	0.8	1.3	0.4	2.0	1.6	0.8	1.2	3.7	4.5	1.8
Letter identification, National Languages (CLPM)	5.9	4.0	6.8	6.3	10.9	9.7	9.9	9.7	19.5	16.6

The table shows some patterns that align with previous experience with A!1. For example, reported languages spoken at home mostly align with the national languages for each province. Children in Kasai Central expressed low feelings of safety relative to other provinces, which is consistent with patterns of insecurity found in these provinces. Learners from North Kivu are older than their peers in other provinces and had the highest scores.

However, some patterns run counter to expectations. For example, although learners from North Kivu had the highest scores on the French language subtasks, they had low proportions of learners who reported speaking French at home. They also had the lowest proportions of learners who attended preschool, who had attended class or had been on time to class the previous week, and who had the lowest SES scores of all groups— strangely, all factors previously associated with higher EGRA scores.

Finally, the table shows that children at EPs and CRSs performed comparably in Kinshasa, Equateur, Kasai Central, and Haut-Katanga. In each of these provinces, scores differed between EPs and CRSs by no more than two points.

Table 6 presents results based on composites. Five composites are presented: multilingualism at home, teachers' encouragement, homework, home reading culture, and parent literacy levels. Each composite has a different scale depending on the number of questions used to create the composite. For comparison purposes, heatmap colors have been applied by composite, highlighting high means in green and low means in red. Variances were calculated by transforming scores into percentages, then subtracting the lowest score from the highest.

Table 6: Selected Composite Scores by Province and Establishment

Factor	Meaning of Score	Provinces						Type of School		Variance	
		Kinshasa	Equateur	Kasai Central	Haut-Katanga	Nord Kivu	Sud Kivu	EP	CRS	By Prov	By Type
Multilingualism at home (0-5)	1=1 language spoken at home;5=5 languages spoken at home	1.63	1.55	1.52	1.8	1.62	1.82	1.68	1.64	6.10%	0.90%
Teachers' encouragement of students (0-10)	1=1 encouraging behavior cited;10=10 encouraging behaviors cited	5.97	6.27	5.87	6.35	6.66	6.71	6.1	6.45	8.40%	-3.50%
Homework (0-3)	0=no homework activity reported; 3=3 types of homework activities reported	2.13	1.46	1.84	2.16	2.37	2.03	2.1	2.01	30.20%	3.00%
Reading culture at home (0-2)	0=no reading practice cited; 2=two reading practices cited	0.54	1.02	1.08	0.81	1.04	0.91	0.7	0.87	27.00%	-8.30%
Parents are literate (0-1)	0=zero or one parent knows how to read; 1=both parents know how to read	0.93	0.91	0.89	0.9	0.79	0.8	0.92	0.81	14.30%	11.10%

Note: One asterisk (*) indicates CRSs only.

Three patterns emerge in Table 6.

1. **For two composites, scores were similar across provinces.** Multilingualism at home and teacher encouragement of student behavior were roughly the same across provinces, as seen in their low levels of variance—between 6.0 and 8.4 percentage point differences (see column *Variance by province*).

2. **Composite scores were similar between EPs and CRSs**. Scores between EPs and CRSs varied little (see column *Variance by Type*). There is as little as an 0.8 percentage-point difference for multilingualism at home and as much as an 11.0 percentage-point difference for parents are literate. This lack of variance suggests that children's experiences are similar, thus making it unlikely that the type of establishment—EP or CRS—correlates broadly with EGRA performance.

3. **Homework and reading culture at home varied substantially by province..** Homework scores varied by 30.3 percentage points between the highest-scoring province—North Kivu—and the lowest—Equateur. Reading culture at home scores varied by 27.0 percentage points between the highest—Kasai Central—and the lowest—Kinshasa.

PREDICTORS OF PERFORMANCE

Regression analyses identified correlations between children's average scores on the national languages' letter identification fluency scores—EP and CRS combined—and selected variables (see Annex VIII). Interestingly, no single variable predicted stronger reading scores across all three language groups.

The following correlations were found to be statistically significant.
- In **Lingala-phone provinces**, two variables predicted stronger performance:

- o **Preschool**: Children who reported having attended preschool identified, on average, 2.2 more letters than did children who did not report having attended preschool.
  - o **Type of establishment**: Learners in CRSs identified, on average, 1.7 more letters than did students in EPs.

- In the **Ciluba-phone province**, two variables predicted stronger performance:
  - o **Age**: Older children performed better than did younger ones. For each year older, the child identified, on average, 1.2 more letters.
  - o **Reading culture at home**: Children with higher reading culture scores—those who reported reading to others or being read to at home—identified, on average, 1.8 more letters than did children with lower reading culture scores.

- In **Kiswahili-phone provinces**, two variables predicted stronger performance:
  - o **Language at home**: Children who reported spoking French at home identified, on average, 8.1 more letters than did children who did not indicate that they spoke French at home.
  - o **Safety at EP or CRS**: Children who reported feeling safer at their establishment—EP or CRS—identified, on average, 8.4 more letters than did children who did not report feeling as safe.

Regression analyses also identified the correlation between children's average scores on the French language ORF scores and selected variables (see Annex VIII). In this case, three significant correlations were identified, and these held true for all three language groups:

- **Language at home**: Children who reported that they spoke French at home read, on average, 1.2 more words per minute than did children who did not report speaking French at home.
- **Type of establishment**: Learners in CRSs read, on average, 1.3 more words per minute than did students in EPs.
- **Father knows how to read**: Children reporting that their father knows how to read in turn read, on average, 0.8 more words per minute than did children who did not say their father could read.

SUMMARY OF FINDINGS

This report presents the results of an EGRA conducted by A!I at the beginning of the 2019–20 academic year to assess the reading levels of Grade 2 students and Level 1 learners in a sample of private primary state schools and CRSs. Evaluators assessed reading skills in French and in the national language of the provinces included in the sample— Lingala in Equateur and Kinshasa; Ciluba in Kasai Central; and Kiswahili in Haut-Katanga, North Kivu, and South Kivu. Data collectors administered a student questionnaire with each child to capture contextual factors that may contribute to learning to read. They also administered a demographic survey in each establishment with EP and CRS directors. Results from the four tools reveal five key findings.

Greatest ability found on letter identification. On the national language portion of the EGRAs, children performed best on the letter identification subtask. Scores ranged from a low of 4.0 letters for learners in the CRSs of Kinshasa to a high of 19.5 letters per minute for North Kivu. Similarly, the proportions of students receiving zero scores were the lowest for letter identification. These ranged from 3.2 percent of learners in North Kivu to 45.3 percent of learners in the CRSs of Kinshasa.

Performance trailed on the other four subtasks. Compared to the letter identification subtask, children's performance on the other four subtasks within the national language portion was weak. Students and learners alike averaged low mean scores on all subtasks, and a high proportion—44.4 to 99.7 percent—received zero scores on these other four subtasks. This trend held true regardless of the sex of the child or type of establishment he or she attended. Performance was weakest on the reading comprehension subtask, on which no province or subgroup exceeded an average of 0.2 questions being answered out of five. The EGRA was not able to provide an accurate measure of comprehension skills as oral reading fluency levels were too low[10]. The low levels of reading comprehension and oral reading fluency were found on both the national languages and French language portions of the EGRA.

North Kivu performed best; Kinshasa and Equateur lagged. North Kivu performed best, with most average mean scores double those of their peers, and the lowest proportions of zero scores compared to their peers. This was true on both national language subtasks and French subtasks. Conversely, children in Kinshasa had the lowest scores on average, and Kinshasa and Equateur had the highest proportions of zero scores.

Comparable performance across subgroups, languages, and establishments. In spite of variations across provinces, EP students and CRS learners generally performed comparably within provinces. Equateur was the biggest exception—where CRSs learners performed statistically better than their EP peers on four of the five national language subtasks and all three of the French language subtasks. Similarly—and perhaps surprisingly—girls and boys performed comparably as well. Analysts found few statistically significant differences by sex within provinces. This contradicts findings in other A!I assessments; the quarterly assessments detected a statistically significant difference between girls and boys

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[10] The reading comprehension subtask of the EGRA is designed to only ask comprehension questions related to the portion of the text actually read. For example, if a student only reads the first sentence of the oral reading fluency subtask, only the first reading comprehension question will be asked. If a student is unable to read the first few words of the ORF subtask, no comprehension questions will be asked

beginning in Grade 2, albeit with different populations. Finally, children performed comparable on the national language subtasks and French language subtasks in most cases. Although analysts found some statistically significant differences between subgroup scores, they detected only small effect sizes.

Factors predict stronger performance. Analysts found several characteristics that predict reading performance on the national language portion of the EGRA, although none were universal across language groups. In Lingala-phone provinces, attending preschool and attending a CRS predicted higher performance. In Ciluba-phone provinces, being older and having a greater reading culture at home predicted higher performance. In Kiswahili-phone provinces, the language spoken at home and safety at EPs or CRSs predicted higher performance. In considering the French language portion of the EGRA, analyst found three characteristics that predict reading performance. These included speaking French at home, attending a CRS, and having a father who knows how to read.

DISCUSSION

In spite of a floor effect, several types of variation were detected.[11] The extremely low scores across most groups constitute a floor effect on this EGRA. This effect means that some scores have limited variation, thus reducing the possibility of identifying patterns or relationships concerning what reading-related tasks children can and cannot do.[12] Nevertheless, the design of this assessment did allow for the detection of some variation, including statistically significant differences between subgroups—boys and girls, EPs and CRSs—differences between scores on the letter identification subtask compared to the other subtasks, and the differences in performance across provinces.

Age and learning culture may explain North Kivu's relatively strong performance. The scores of the CRS learners in North Kivu—almost-double those of their peers in other provinces—raises the question: What is different about these establishments or learners? As Table 5 shows, learners in North Kivu are older, on average, than their peers in other provinces. This may mean that some of the children have previously attended an EP or a CRS, although enrolling at Level 1 typically indicates a child is entering the CRS for the first time. Alternatively, something may be different about the CRSs of North Kivu. Analysts found that North Kivu leaners had the highest scores on three composites related to learning culture: teachers' encouragement of student/learners, homework, and reading culture at home. Of course, factors not captured by this assessment may play a role in learners' success, such as the way CRSs in North Kivu are managed or recruit learners, or the reasons that parents enroll their children to these centers.

Kinshasa's relatively weak performance. Children in Kinshasa performed worse than their peers in the provinces. This is peculiar, since in many countries, children in the capital city often perform better than their peers in the provinces due to higher socioeconomic status (SES), greater exposure to media, and other factors. There may be two explanations for this anomaly. First, in this EGRA sample, schools in Kinshasa are mostly rural, while all of the schools in the provinces are urban and peri-urban. Thus, provincial schools' urbanicity may explain their relatively stronger performance. Second, by design, the EPs and CRSs in Kinshasa hail some of its most disadvantaged neighborhoods, where learning conditions may be more difficult than those of their peers in provincial schools.

It is unclear why results for girls and boys are not more different. Previous assessments conducted by A!1 detected statistically significant differences between girls' and boys' performance beginning in Grade 1.[13] However, in this 2019 assessment, the only statistically significant differences between girls' and boys' performance was found in Equateur, in favor of boys. This was true for both the National Languages and French

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[11] A!1 originally designed this assessment to establish a baseline against which endline results would be compared; therefore, analysts expected lower scores at the beginning of the year.

[12] *RDC, 2015 : Évaluation des compétences fondamentales en lecture (EGRA), Évaluation des compétences fondamentales en mathématiques (EGMA), et Aperçu de l'efficacité de la gestion des écoles (SSME) – Rapport des conclusions en 3e année.* Préparé avec l'Aide technique et administrative EdData II, Tâche No. 29. Juin 2016.

[13] For example, the *2017 Early Grade Reading Monitoring Assessment in The Democratic Republic of the Congo* conducted by A!1 reported statistically significant differences in favor of boys on several subtasks. Similarly, the *Report: 2018 Early Grade Reading Monitoring Assessment in the Democratic Republic of Congo* conducted by A!1 found statistically significant differences in favor of boys in CRSs. And the quarterly assessments conducted by A!1 found that the difference in performance grows in favor of boys starting in Grade 1 – see *Evaluation, Quarterly Assessment, Third Trimester 2017-18*. Op cit.

portions of the EGRA. One reason may be that the 2019 EGRA represents a different population was drawn from a different sample—focusing on private establishments, not public state schools—where greater gender disparities were found previously. Another possible reason may be limited statistical power (see Limitations). Nevertheless, results from this EGRA raises the question whether greater gender parity exists in non-state schools than in state schools.

Findings sometimes aligned with expectations, but not always. In some instances, the results of this EGRA were consistent with what analysts, experts, and project staff expect. For example, the languages children speak at home tended to align with the official national languages for their province. Additionally, children's reported feelings of safety also aligned with patterns found in the provinces reached by A!1. However, other findings only partially align with expectations. For example, experts would expect children who speak French at home to have higher scores than their peers on the EGRA's French-language subtasks. Indeed, this was true of children in Kiswahili-phone provinces on the French-language oral reading—but not true in Lingala-phone or Ciluba-phone provinces. Moreover, North Kivu learners reported the lowest rates of speaking French in the home, yet they scored highest on the French language subtasks. Similarly, experts would expect children who speak their provinces' national language at home to score higher on the national languages subtasks. Indeed, this was true of Ciluba-phone children on the letter identification subtask, but not Kiswahili- or Lingala-phone children. As another example, experts would expect children of higher SES to perform better than their peers; yet regression analyses did not identify SES as a predictor of performance for any language group. Experts would expect classroom attendance rates to make a difference; yet only children in the Lingala-phone provinces who reported higher attendance rates scored higher on the EGRA. Finally, being older usually makes a difference in children's performance; indeed, this has previously been observed within the A!1 project. However, on this EGRA, being older is only significantly associated with higher scores in Kasai Central, where ages were amongst the lowest reported. Limited sample sizes may account for some of these anomalies, and conducting similar assessments—ideally with larger samples—could confirm or counter these patterns.

RECOMMENDATIONS

Recommendations are provided in two categories related to A!I's intervention and to future research.

INTERVENTION-RELATED RECOMMENDATIONS

1. **Focus on building skills foundational for comprehension.** Although children's performance can be improved on the letter identification subtask, the "drop-off" of scores on the other subtasks suggests that teachers should dedicate more instructional time to these other skills. Specifically, teachers should focus on building skills foundational for comprehension—vocabulary building, familiar word reading, decoding, and reading fluently.

2. **Provide additional support for establishments in Kinshasa and Equateur.** Because Kinshasa had the lowest mean scores, and Kinshasa and Equateur had the highest zero scores in comparison to the other provinces, A!I should consider providing additional support in Kinshasa and Equateur to improve their children's performance.

RESEARCH-RELATED RECOMMENDATIONS

3. **Investigate reasons for the strong performance of learners in North Kivu.** This study found that North Kivu learners performed better than their peers in other provinces—in some instances, scoring twice as high—and that North Kivu learners were older than their peers. Researchers should examine reasons for their stronger performance: is it a function of age, of more exposure time, of specific management practices, of specific home conditions, or something else? Once known, A!I can determine if any of these factors can be applied to other establishments in the intervention area.

4. **Investigate equity concerns in Equateur**. Because analysts found statistically significant differences in girls' and boys' performance in Equateur, researchers should examine why boys outperform girls on nearly every subtask in this region. Once known, A!I can determined if any of these factors be applied to other establishments in the project's intervention area.

5. **Explore whether other studies corroborate this study's findings**. Because this EGRA follows several others conducted by A!I over the last five years, researchers have the opportunity to investigate the extent to which these studies correlate. Specifically, they should determine whether factors that were found to be predictive of performance in this EGRA were predictive of performance in other EGRAs. These factors include preschool attendance, establishment type, child's age, home reading culture, language at home, safety, attending a CRS, and having a father who knows how to read. Additionally, researchers should explore whether lessons from these other studies provide clues about how to improve the intervention design for current A!I establishments.

6. **Consider conducting follow-up measures on a limited basis.** Although a full endline EGRA is not part of the A!I program design, the results presented in this report could serve as a reference against which A!I might follow up on a limited basis—for example, in one or two provinces. Such efforts would allow A!I to track change in children's reading ability in those selected provinces. It could also be linked to the fidelity of implementation data already being collected by the project, which shares the same sample of schools as the 2019 EGRA. Such a measure would inform reflection about the extent to which the fifth year of A!I interventions successfully

achieved their objectives as specified the project's results framework and theory of change.

7. **Investigate reasons for the stronger and weaker performance.** North Kivu learners performed better than their peers in other provinces, A!1 should examine factors that might explain these differences. Nord Kivu learners are older than their peers, for example. Other differences might include time CRSs have been exposed to A!1 interventions and management practices that may differ between CRSs and EPs. In the same vein, reasons for the relatively poor performance of children in Kinshasa and Equateur should be investigated.