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QUALITY READING PROGRAM-TIME TO READ Early Grade Reading Assessment Midline Report

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QUALITY READING PROGRAM-TIME TO READ

EARLY GRADE READING ASSESSMENT MIDLINE REPORT

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DISCLAIMER

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ACRONYMS

CEATM	Center for Educational Assessment and Teaching Methods
EGRA	Early Grade Reading Assessment
EMIS	Education Management Information System
IRB	Institutional Review Board
IRR	Inter-rater Reliability
ISR	ISR Consult
IRT	Item-response theory
LOI	Language of Instruction
MOES	Ministry of Education and Science
ORF	Oral Reading Fluency
QCO	Quality Control Officer
QRP	Quality Reading Project
SES	Socioeconomic Status
SSME	Snapshot of School Management Effectiveness
STS	School-to-School International
TTR	USAID Quality Reading Program-Time to Read
TWG	Technical Working Group
USAID	United States Agency for International Development

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EXECUTIVE SUMMARY

STUDY PURPOSE

This study seeks to understand trends in early grade reading performance in the Kyrgyz Republic at the national level and among schools benefiting from the Quality Reading Program: Time to Read (TTR) project, funded by the United States Agency for International Development (USAID). Findings from this study aim to inform implementation of TTR and support for early grade reading in the Kyrgyz Republic.

PROJECT BACKGROUND

TTR is a three-year project implemented by Chemonics International, Inc. that aims to improve reading outcomes for students in primary grades in all regions of the Kyrgyz Republic. It is designed to achieve this goal through improved reading instruction in grades 1 through 4; improved access to and availability of quality materials that support the development of reading in grades 1 through 4; and increased government support to improve reading.

DESIGN, RESEARCH QUESTIONS, METHODS AND LIMITATIONS

STUDY DESIGN AND RESEARCH QUESTIONS

The first goal of this study is to understand national-level trends in early grade reading performance. To this end, the study compares data that were collected under USAID's predecessor project, Quality Reading Program: Reading Together (QRP), with data collected by TTR in April 2018. QRP data from April 2017 and TTR data from April 2018 serve as the baseline and midline assessments of the TTR project, respectively. The baseline to midline comparison provides an opportunity to examine trends in reading outcomes in the Kyrgyz Republic over time.

The second goal of this study is to examine TTR data from April 2018 to understand trends in early grade reading performance between three distinct populations of schools in the Kyrgyz Republic:

1. Group 1: public schools with primary grades that received QRP interventions and will not receive TTR interventions (QRP-only)
2. Group 2: public schools with primary grades that received QRP and will receive TTR interventions (QRP+TTR)
3. Group 3: public schools with primary grades that did not receive QRP interventions and will receive TTR interventions (TTR-only)

Based on these two goals, this study seeks to address four research questions:

1. How do Kyrgyz and Russian reading outcomes of students in grade 2 and grade 4 nationally vary by subgroups?¹
2. How do Kyrgyz and Russian reading outcomes of students in grade 2 and grade 4 differ between TTR-only (group 3) and QRP-only (group 1) at baseline, midline, and endline?
3. How do Kyrgyz and Russian reading outcomes of students in grade 2 and grade 4 differ between TTR-only (group 3) and QRP+TTR (group 2) schools at baseline, midline, and endline?

¹ For this study, subgroups of interest include gender, location, and region.

4. How does the proportion of students who can read and understand the meaning of grade-level text in Kyrgyz and in Russian vary at baseline, midline, and endline in QRP+TTR (group 2) and TTR-only (group 3) schools in grade 2 and grade 4?

METHODS

To answer the research questions, TTR drew a representative sample of each of the three school groups for data collection at the midline in 2018. The sample of schools was drawn in accordance with the representation of the full population of schools in the Kyrgyz Republic based on oblast, language of instruction (Russian and Kyrgyz), and location (urban, semi-urban, and rural). Students were sampled at the class level to reflect gender proportions of the student population in the country.

Students were assessed using Kyrgyz and Russian adaptations of the Early Grade Reading Assessment (EGRA), which measures student performance on the basic foundational skills required for fluency in reading. Alongside the EGRA, students took a brief survey that collected information about their background and home environment. Additionally, school-level data were collected using Snapshot of School Management Effectiveness (SSME) surveys, including a head teacher questionnaire, a teacher questionnaire, a school inventory checklist, and a classroom inventory checklist. The purpose of the student survey and SSME data was to understand student and school background factors that may influence students' reading performance.

Midline data collection took place in April 2018. Data were collected by ISR Consult (ISR), a data collection firm in the Kyrgyz Republic. In total, enumerators visited 289 schools—168 in the Kyrgyz sample and 121 in the Russian sample. They collected data from 2,836 grade 2 students—1,654 in the Kyrgyz sample and 1,182 in the Russian sample—and 2,791 grade 4 students—1,622 in the Kyrgyz sample and 1,169 in the Russian sample.

Prior to analysis, the EGRA tools used in April 2018 were equated with, or brought to a common scale as, the EGRA tools used by QRP. This was done to allow for appropriate comparisons with QRP data from previous years. Sampling weights were also calculated for the assessment data to produce more representative estimates in the sample of students. After applying equating and weighting functions for the 2018 data, mean scores, zero scores, and reading benchmark results across subtasks were analyzed for each of the disaggregated groups of interest. Differences between within-group categories were analyzed using t-tests for mean-score comparisons and chi-square tests for zero-score and reading-benchmark comparisons. Comparisons of 2017 to 2018 results by school group were made using a difference-in-differences approach that shows variance in the rate of change in student outcomes between the groups of interest. Mean difference-in-differences between the TTR-only school group and the other two groups were analyzed to estimate how TTR may be affecting reading performance in the short time since the intervention began reaching students.

Data for the SSME questionnaires and inventories were correlated with oral reading fluency (ORF) scores to identify student and school characteristics that are linked to the subtask scores. Those items with statistically significant correlations with ORF were included in a linear regression model to understand the extent to which they predicted ORF scores.

LIMITATIONS

Some key limitations should be kept in mind while reviewing EGRA results:

1. Most schools in the Kyrgyz Republic have participated in a previous USAID-funded reading intervention, such as QRP, and all eligible schools that did not participate in QRP are receiving TTR interventions. Therefore, an appropriate comparison population, or control group, of schools does not exist in the country. As a result, drawing comparison schools from the

population of schools that previously received the QRP intervention presents risks to appropriate comparability.

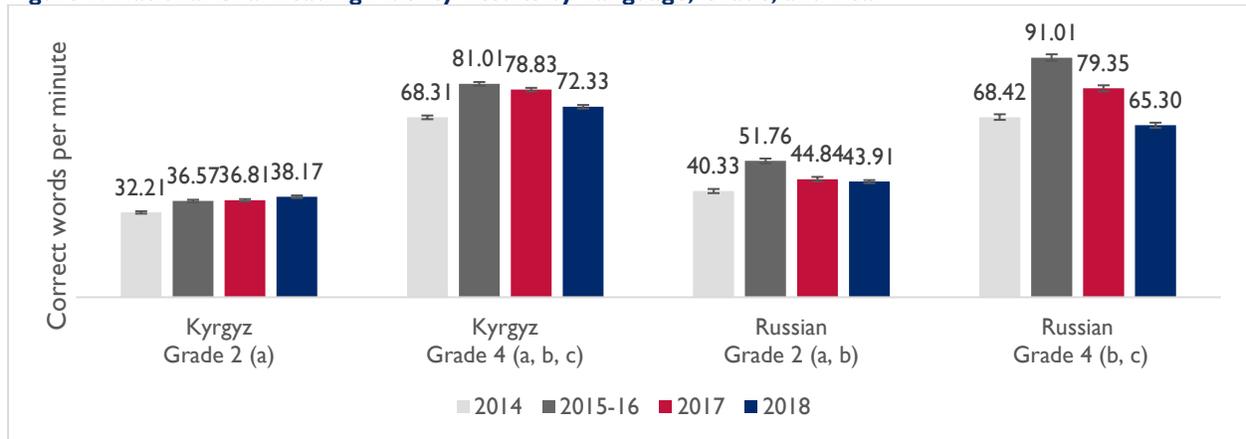
2. Teacher and student exposure to the TTR intervention was limited to approximately three months at the time of midline assessment due to delays in implementation caused by external factors. Results may not reflect gains in student outcomes that would be expected with greater exposure to TTR’s training and materials.
3. The EGRA results will not provide appropriate data for cross-linguistic comparisons; that is, the report does not statistically compare student reading skills in Kyrgyz with student reading skills in Russian. Acquisition of language and reading development depends on several factors including the different levels of orthographic transparency, visual complexity, and phonology.

FINDINGS

NATIONAL-LEVEL RESULTS SNAPSHOT

Overall, the 2018 EGRA results for students studying in both Kyrgyz and Russian show strong reading outcomes (Figure 1 and Figure 2). ORF mean scores for students in grade 2 in both languages approached or exceeded the established grade-level benchmark of 40 correct words per minute. The mean scores for Kyrgyz-medium grade 4 students and Russian-medium grade 4 students were, on average, 72.33 and 65.30 correct words per minute, respectively. Moreover, the percentage of students who were nonreaders across most EGRA subtasks was extremely low, indicating that nearly all students have some ability to read.

Figure 1: National Oral Reading Fluency Results by Language, Grade, and Year

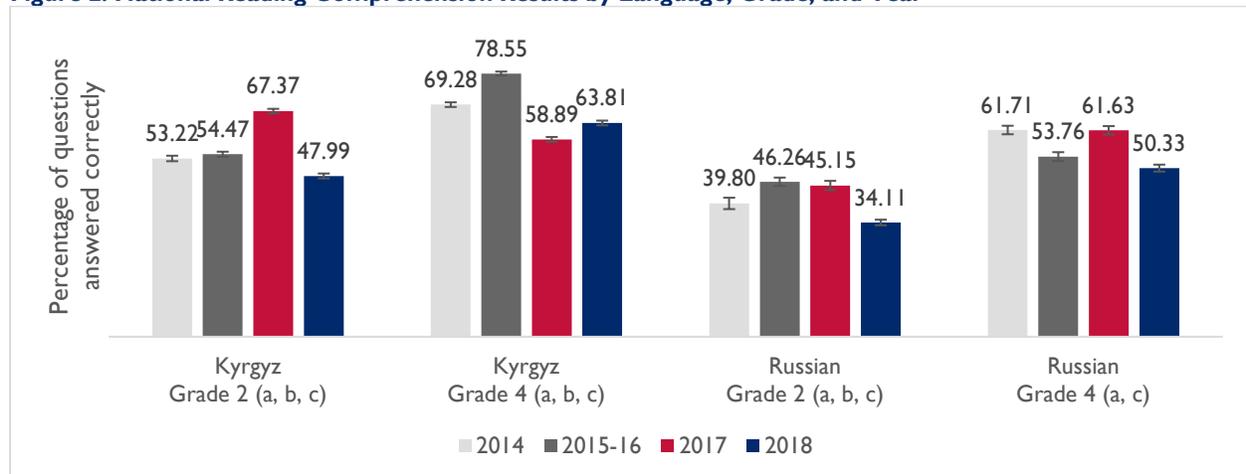


^a Differences between 2018 and 2014 are statistically significant at $p < 0.05$.

^b Differences between 2018 and 2015–16 are statistically significant at $p < 0.05$.

^c Differences between 2018 and 2017 are statistically significant at $p < 0.05$.

Figure 2: National Reading Comprehension Results by Language, Grade, and Year



^a Differences between 2018 and 2014 are statistically significant at $p < 0.05$.

^b Differences between 2018 and 2015–16 are statistically significant at $p < 0.05$.

^c Differences between 2018 and 2017 are statistically significant at $p < 0.05$.

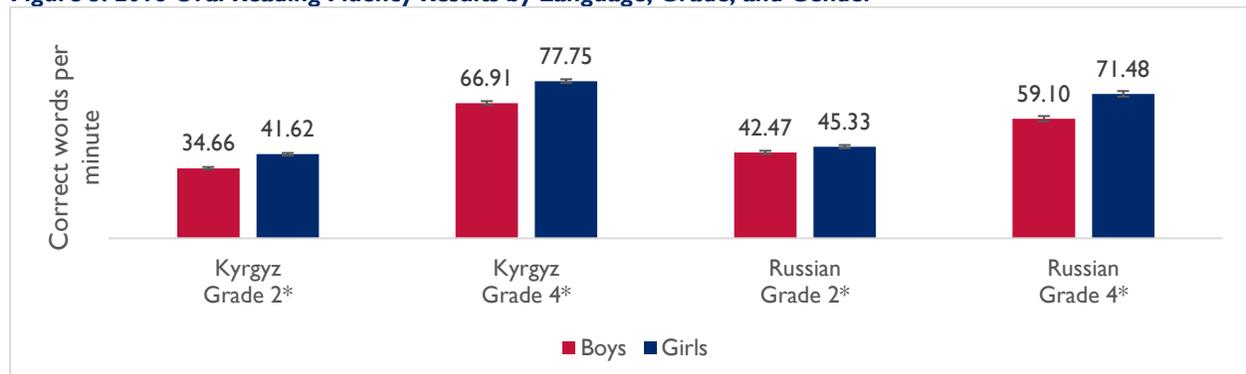
For Kyrgyz-medium students, the 2018 EGRA results relative to previous years’ results varied depending on the EGRA subtask and the year being compared. For grade 2 students, 2018 results were similar to or higher than previous years’ results on equated subtasks like the familiar word reading and ORF but lower on subtasks like the reading comprehension and listening comprehension. For grade 4 students, 2018 results were generally lower than 2015–16 and 2017 results but comparable to or higher than 2014 results.

For Russian-medium students, 2018 EGRA results were generally lower across subtasks than previous years. The 2018 results were consistently lower than those from 2015–16 and 2017 for both grade 2 and grade 4 students. While the 2018 results were comparable to or higher than 2014 results on some subtasks, the 2018 results were lower than 2014 results on the majority of tasks across both grades.

2018 SUBGROUP RESULTS—GENDER, LOCATION, AND OBLAST

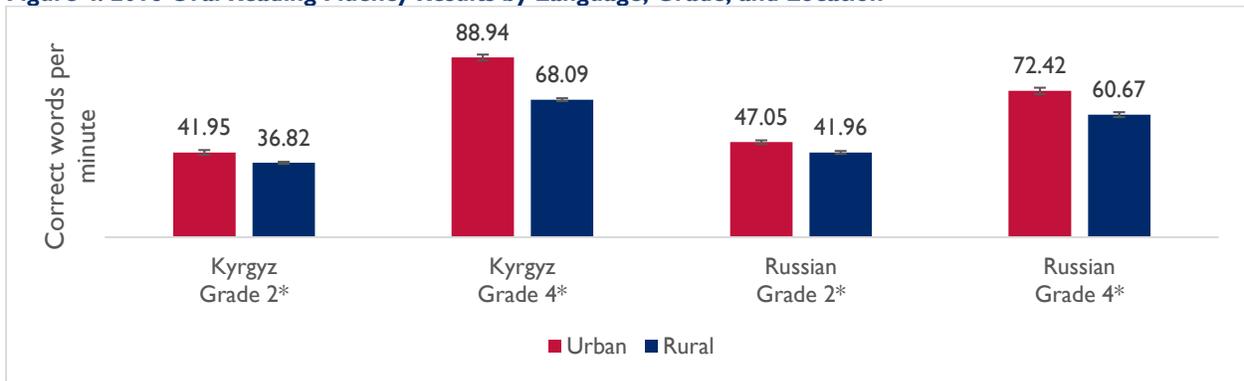
Girls generally outperformed boys (Figure 3). This was true across grades and languages for most subtasks, particularly for high-order reading skills as measured by the familiar word reading, nonword reading, and ORF subtasks.

Figure 3: 2018 Oral Reading Fluency Results by Language, Grade, and Gender



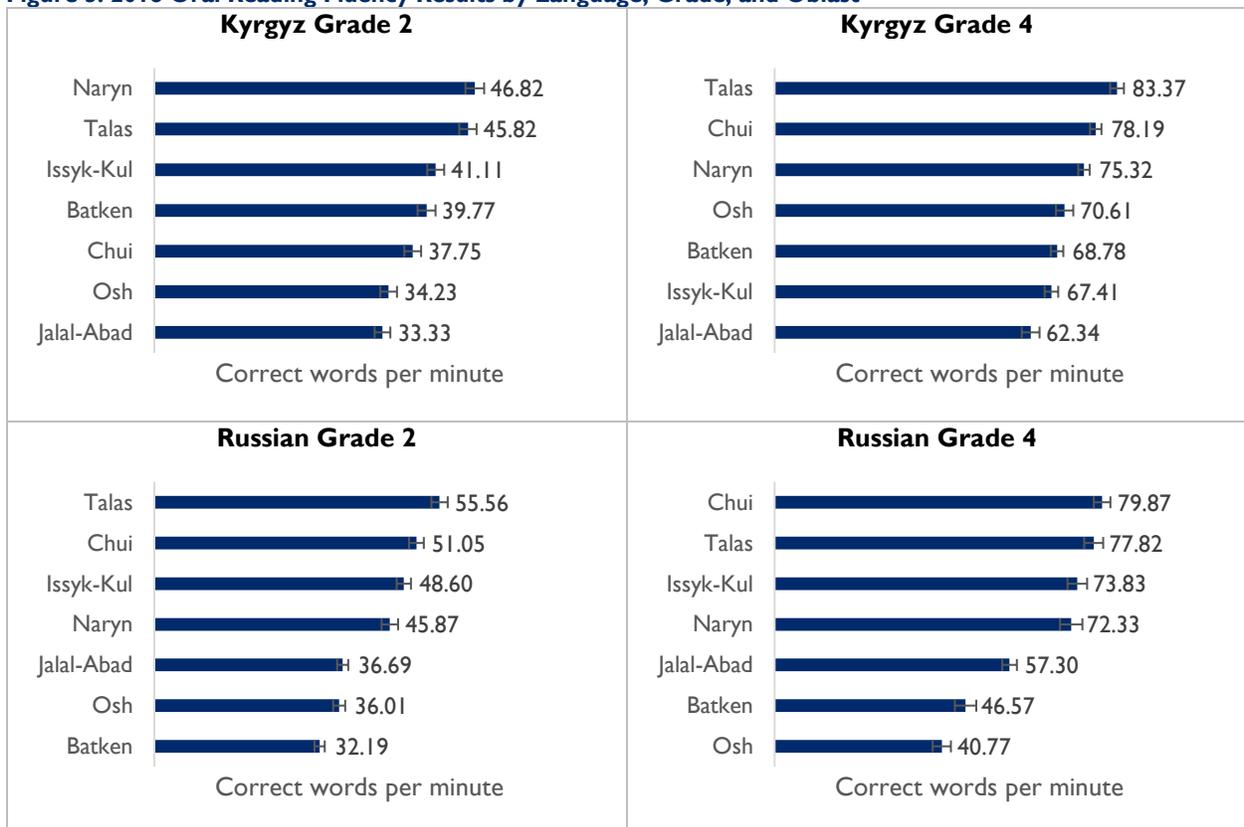
Students from urban areas generally outperformed students from rural areas (Figure 4). This was true across both grades and languages. However, in the grade 2 and grade 4 Russian-medium sample, the gap between urban and rural students was often present in two groups—QRP-only and QRP+TTR schools—but not in TTR-only schools.

Figure 4: 2018 Oral Reading Fluency Results by Language, Grade, and Location



Students from schools located in the Chui, Issyk-Kul, Naryn, and Talas oblasts generally outperformed students from Jalal-Abad, Batken, and Osh (Figure 5). This was true across both grades and languages. When Bishkek and Osh City results were considered separately from other schools in their respective oblasts, mean scores from Bishkek typically were near the top, while mean scores from Osh City typically were in the middle or near the bottom.

Figure 5: 2018 Oral Reading Fluency Results by Language, Grade, and Oblast

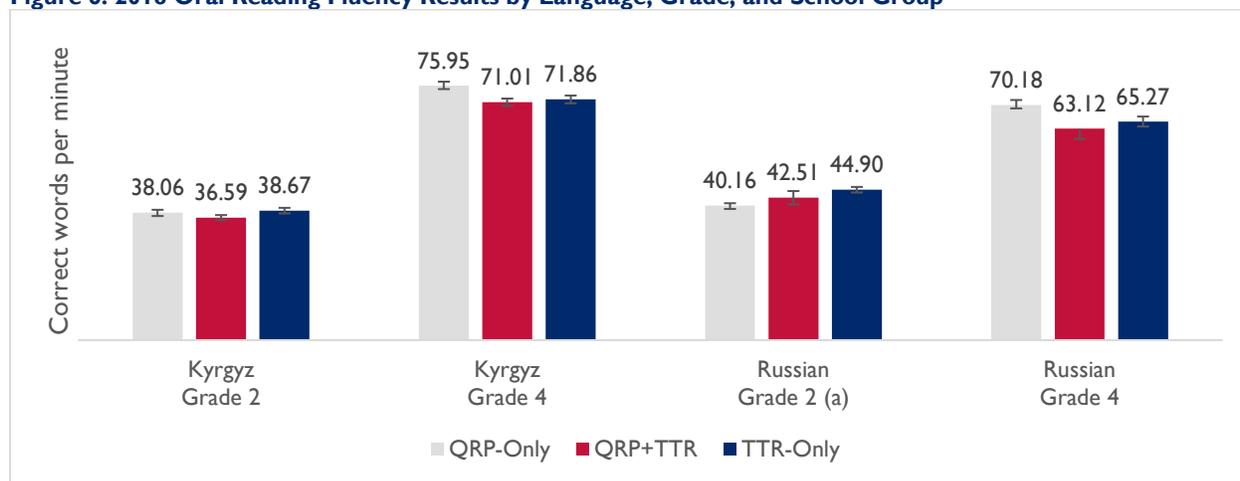


2018 SCHOOL GROUP RESULTS

For Kyrgyz-medium students, 2018 EGRA results varied by grade and school group (Figure 6 and Figure 7). For grade 2, students from the TTR-only group had comparable mean scores as students from the other two groups across most subtasks. For grade 4 students, the TTR-only group scored lower than the QRP-only group on the familiar word reading subtask but higher than the QRP+TTR group on that subtask as well as the nonword reading subtask.

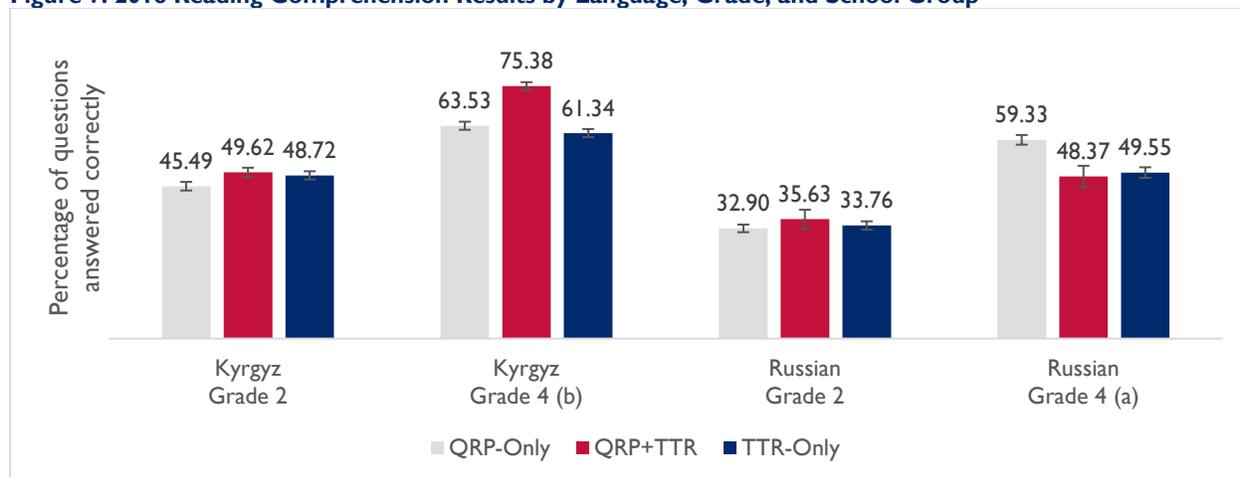
For Russian-medium students, 2018 EGRA results varied by grade and school group (Figure 6 and Figure 7). For grade 2 students, the TTR-only group scored higher than the QRP-only group on the familiar word reading, nonword reading, and ORF subtasks, while results for the TTR-only group and the QRP+TTR group were comparable. For grade 4 students, the QRP-only group had similar results as the other two groups across most subtasks.

Figure 6: 2018 Oral Reading Fluency Results by Language, Grade, and School Group



^a Differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$.

Figure 7: 2018 Reading Comprehension Results by Language, Grade, and School Group



^a Differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$.

^b Differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$.

Across grades, languages, and school groups, results generally declined from 2017 to 2018 (Table I). For Kyrgyz-medium students, the trends in performance between the TTR-only and QRP-only

groups were comparable in grade 2 and varied by subtask in grade 4. The TTR-only group generally did not perform as well from 2017 to 2018 as the QRP+TTR group, regardless of grade. For Russian-medium students, trends in performance were generally better in the TTR-only group than the other two school groups for both grade 2 and grade 4.

Table 1: Percentage Change in EGRA Subtask Score from 2017 to 2018 by Language, Grade, and School Group

EGRA Subtask	School Group	Kyrgyz Grade 2	Kyrgyz Grade 4	Russian Grade 2	Russian Grade 4
Letter name identification (Equated)	QRP-Only	-3.4%	n/a	-29.2%	n/a
	QRP+TTR	-0.2%	n/a	-27.1%	n/a
	TTR-Only	-4.4%	n/a	-15.1%	n/a
Initial sound identification (Equated)	QRP-Only	-7.3%	n/a	-14.6%	n/a
	QRP+TTR	-3.0%	n/a	-18.4%	n/a
	TTR-Only	-11.2%	n/a	-9.2%	n/a
Familiar word reading (equated)	QRP-Only	6.4%	-11.7%	-10.6%	-9.9%
	QRP+TTR	1.8%	-26.4%	-9.5%	-18.2%
	TTR-Only	-2.2%	-24.2%	17.7%	-1.9%
Nonword reading (equated)	QRP-Only	-0.1%	10.6%	-13.9%	-9.7%
	QRP+TTR	2.1%	-1.7%	-12.9%	-10.9%
	TTR-Only	-4.7%	7.5%	7.2%	7.7%
Oral vocabulary	QRP-Only	-1.3%	-1.7%	-0.2%	-3.1%
	QRP+TTR	1.7%	1.2%	-6.0%	-4.5%
	TTR-Only	-1.6%	-1.0%	2.6%	2.6%
Oral reading fluency (equated)	QRP-Only	4.5%	-3.8%	-13.4%	-13.6%
	QRP+TTR	0.5%	-10.0%	-8.3%	-22.3%
	TTR-Only	0.0%	-8.2%	19.3%	-7.8%
Reading comprehension	QRP-Only	-32.4%	8.8%	-30.5%	-6.5%
	QRP+TTR	-28.0%	29.1%	-24.8%	-23.8%
	TTR-Only	-26.3%	0.2%	-3.1%	-6.7%
Listening comprehension	QRP-Only	-10.7%	-15.7%	17.6%	-30.6%
	QRP+TTR	-3.6%	11.1%	1.6%	-41.9%
	TTR-Only	-2.5%	-8.0%	27.4%	-39.3%

Note: Pink and red coloring indicates a decrease in score from 2017 to 2018. Green coloring indicates an increase in score from 2017 to 2018.

STUDENT AND SCHOOL BACKGROUND FACTORS

At the student level, several factors had positive associations with reading outcomes, including reading at home, bringing books home from school, receiving reading homework from the teacher, socioeconomic status, and, for students in Russian-medium schools, home language.

At the school level, several factors had positive associations with reading outcomes, including teacher and head teacher expectations for students' reading and writing skill acquisition;

frequency of library activities and librarian experience; teachers' perceptions of school safety; the availability of student resources, including textbook, copybook, and pencil; and, for Russian-medium schools, the classroom teachers' home language.

CONCLUSIONS AND RECOMMENDATIONS

Among the study's findings, several stand out as having implications for TTR's implementation. One is that students' comprehension skills generally are not at the same level as their fluency skills. For example, the national mean score for the ORF subtask among Kyrgyz-medium grade 4 students was 72.33 words per minute, yet students answered only 63.81 percent of the five comprehension questions correctly. Grade 2 students in Russian-medium schools averaged 43.91 words read per minute on the ORF subtask, a mark that was above the national benchmark; yet they could only answer 34.11 percent of the comprehension questions correctly. To address this skill gap, targeted reading interventions are needed to help improve reading comprehension for students across both languages and grades. Students need greater support to learn how to comprehend text. The TTR intervention should focus on developing teachers' understanding of how to build students' explicit reading comprehension skills through strategies that focus on vocabulary, listening comprehension, and overall exposure to a variety of types of narrative.

A second key finding with implications for TTR's implementation is the performance gap between girls and boys. EGRA results from 2018 showed that girls scored higher than boys on most subtasks across grades and languages, and these results are consistent with previous EGRAs conducted in the Kyrgyz Republic. To the extent possible, future teacher training should include sensitization to the difference in reading outcomes between boys and girls and provide strategies to narrow this gap.

A third key finding with implications for TTR's implementation is the relationship between student performance and where a student lives. Students from urban areas outperformed their rural peers on nearly all subtasks across both grades and languages. Differences by oblast also emerged, as students from Chui, Issyk-Kul, Naryn, and Talas generally outperformed students from Jalal-Abad, Batken, and Osh. This trend by oblast suggests that there may be regional differences that are contributing to differences in EGRA performance. Moving forward, extra support to teachers and schools in rural areas—especially in Jalal-Abad, Batken, and Osh—would be helpful to ensure these students do not continue to underperform compared with their peers in urban areas.

A fourth key finding with implications for TTR's implementation is the importance of fostering a culture of reading among students. At the student level, activities like reading at home, bringing books home from school, and receiving reading homework from the teacher all had positive associations with reading performance. To the extent possible, TTR should work with schools on encouraging reading not only in school but also in the home.

INTRODUCTION

This introduction outlines the USAID Quality Reading Program-Time to Read (TTR) project, describes previous early grade reading data from the Kyrgyz Republic, and spells out the midline study’s purpose.

TTR project background

TTR is a three-year project implemented by Chemonics International, Inc. that aims to improve reading outcomes for students in primary grades in 900 schools in all regions (or *oblasts*) of the Kyrgyz Republic. It is designed to achieve this goal through improved reading instruction in grades 1 through 4; improved access to and availability of quality materials that support the development of reading in grades 1 through 4; and increased government support to improve reading.

The project aims to improve reading competencies by implementing a variety of activities, including

- a. Designing reading strategy training packages
- b. Providing in-service training for educators and education stakeholders in reading instruction
- c. Designing a developmental reading ladder tool to level books that will enable students to develop core reading skills at their own pace
- d. Increasing the availability of age- and grade-level appropriate reading materials in mother tongue languages, specifically Kyrgyz and Russian
- e. Fostering Kyrgyz government support for reading through capacity building in reading instruction and use of assessments to monitor reading progress
- f. Creating partnerships and innovations among parents and education stakeholders that support literacy outcomes

In implementing these activities, TTR proactively coordinates activities with other education-focused initiatives and development partners—primarily the United Nations’ Children’s Fund (UNICEF), Asian Development Bank, the Aga-Khan Foundation, and the World Bank—as well as with all ministerial counterparts.

TTR is the latest USAID project intervening nationwide in primary education in the Kyrgyz Republic. The Quality Reading Project (QRP) preceded TTR. As of spring 2018, TTR was working in 900 schools, including some that also participated in the QRP (Table 2).

Table 2: Description of TTR Schools

Description	Number
Schools that did not participate in QRP	615
Public-private schools	11
Schools from QRP control group	65
Schools identified by USAID QRP as low performing	209
TOTAL	900

Estimates as of September 30, 2017

Early grade reading outcomes in the Kyrgyz Republic

The Ministry of Education and Science (MOES) in the Kyrgyz Republic takes a lead role in coordinating the resources of the government and the support of international donors to improve learning outcomes at schools. The government aims to achieve the Millennium Development Goals through the coordination of donor assistance and host country investments, according to its Education Development Strategy for 2012–20.

TTR builds on a history of USAID support for improving early grade reading outcomes in the Kyrgyz Republic. Prior to TTR, USAID most recently implemented the Quality Learning Project and QRP. Some key challenges in primary education identified by QRP included a lack of quality reading materials in Kyrgyz classrooms and libraries. Moreover, instruction appeared to be oriented to whole-class learning with an absence of small group or differentiated reading instruction. USAID determined that primary school teachers in the Kyrgyz Republic were also in need of a stronger reading instruction curriculum that was more focused on the five essential components of reading.

USAID’s past interventions have collected a significant amount of data from Early Grade Reading Assessments (EGRA). In 2011, the first USAID-funded EGRA study in the Kyrgyz Republic was administered. Analysis revealed that students in grades 2 through 4 had some of the necessary skills for early reading but were still falling at or below national and international standards.² EGRA data were then collected four times during QRP: a baseline in 2014, midlines in 2015 and in 2016, and an endline in 2017. Although QRP’s EGRA study design poses some limitations for comparing student results across years,³ the study generally revealed positive trends between 2014 and 2016, with scores on key subtasks—including letter name identification, familiar word reading, and oral reading fluency (ORF)—that rose noticeably in both grades 2 and 4. Despite these successes, the overall results, while reasonably high in comparison with many other countries participating in EGRA studies, revealed that a considerable proportion of grade 2 and 4 students were not meeting national benchmarks.⁴ Furthermore, QRP found differences in skills attainment—particularly in subtasks requiring decoding skills—between boys and girls that seemed to increase over time.⁵

Other studies have also reported positive trends in Kyrgyz students’ reading skills. The National Sample-Based Assessment study conducted in 2007, 2009, 2014, and 2017 placed grade 4 and 8 students’ reading abilities into four levels: “below basic,” “basic,” “above basic,” and “advanced.” The lowest

² Mirka Tvaruzkova and Duishon Shamatov. *Review of Early Grade Reading Teaching and Skills: The Kyrgyz Republic and Tajikistan Final Report*. (Washington, DC: United States Agency for International Development, 2012).

³ The authors of the report point out the following important limitations that should be kept in mind when interpreting the EGRA results. First, that comparisons across the Kyrgyz and Russian language groups are not an appropriate way of using the results, as the alphabets and syntaxes in the two languages are completely different. Second, it should be kept in mind that several subtasks—including reading comprehension and listening comprehension—contained a very small number of items and are therefore vulnerable to significant changes of scores attributable to a single item. Third, the semi-longitudinal sample approach used for data collection calls for a special caveat in comparing results across years. Finally, the limitations include contamination and take-up of the sample.

⁴ The national standard for reading proficiency is 40 correct words per minute for grade 2 students and 80 correct words per minute for grade 4 students. The minimum acceptable standard for reading comprehension is 80 percent—four out of five questions—a standard that is globally used most often in association with the EGRA reading comprehension subtask. See *The Mother Tongue Subject Standards*, developed by the MOES under the Fast Track Initiative and RTI International. *Early Grade Reading Assessment (EGRA) Toolkit, Second Edition*. (Washington, DC: United States Agency for International Development, 2015). p. 110.

⁵ American Institutes for Research. *USAID Quality Reading Project Kyrgyz Republic: Final EGRA and Impact Report 2013–2017*. (Washington, DC: United States Agency for International Development, 2017).

results were reported in 2009, when the percentage of grade 4 students at the “below basic” level reached 68.6 percent, an increase from 64.4 percent in 2007. This percentage decreased in 2014 (65.3 percent) and again in 2017 (59.8 percent). The number of students in the “advanced” level followed the same trend, reaching its lowest point in 2009 (5.0 percent), followed by improvement in 2014 (5.7 percent) and again in 2017 (8.8 percent).⁶ The positive tendencies in reading outcomes since 2009 may be partly attributed to reading becoming a stand-alone subject and teachers having more time to invest in developing basic reading skills.

Purpose of the study

This report utilizes two independently collected datasets to examine trends at the national level and among TTR schools. To report on nationally representative results, data collected under the predecessor project, QRP, are compared to data collected in April 2018 by TTR. QRP data from April 2017 and TTR data from April 2018 serve as the baseline and midline assessments of the TTR project, respectively. The baseline-to-midline comparison allows STS to examine trends in reading outcomes in the Kyrgyz Republic over time.⁷

Additionally, the data collected by TTR in April 2018 are further examined in this report to understand trends between three distinct populations of schools in the Kyrgyz Republic. The TTR project serves public schools with primary grades that offer reading instruction in Russian or Kyrgyz. TTR’s beneficiary population resembles and partly overlaps with a population of school that have participated in a previous USAID-funded project. USAID requested this study report results from each of the beneficiary school groups to understand how performance in these groups varies over time. To that end, this midline report includes results from a representative sample of the three groups of schools:

1. Group 1: public schools with primary grades that received USAID-funded QRP interventions and will not receive TTR interventions (QRP-only)
2. Group 2: public schools with primary grades that received QRP and will receive TTR interventions (QRP+TTR)
3. Group 3: public schools with primary grades that did not receive QRP interventions and will receive TTR interventions (TTR-only)

In short, this midline report serves two goals:

1. To provide a nationally representative “snapshot” of reading performance in the Kyrgyz Republic between baseline (April 2017) and midline (April 2018)
2. To estimate differences in reading performance between students in the three groups of schools receiving TTR or QRP interventions

To meet these goals, student, teacher, and school data are reported using the following tools: the EGRA, which measures student performance on the basic foundational skills required for fluency in reading; a student survey, which captures background information about the student being assessed; and Snapshot of School Management Effectiveness (SSME) surveys, which capture teacher and administrator’s perceptions of school management and pedagogic practices in the school.⁸

⁶ Center for Educational Assessment and Teaching Methods, *National Sample-Based Assessment 2014 Report of Results* (Bishkek, Kyrgyz Republic, 2017).

⁷ By April 2018—when TTR collected student reading data—TTR schools (teacher practicing new methodologies and students learning through new methodologies) had received only two months months of classroom based exposure to TTR’s training methodologies through in-service training for educators and education stakeholders in reading instruction.

⁸ The SSME was designed to capture indicators that are believed to affect student learning, and the results of these tools can inform education stakeholders about current practices in schools and classrooms in the Kyrgyz Republic.

Research questions

This study seeks to address four research questions, developed in collaboration with USAID:

1. How do Kyrgyz and Russian reading outcomes of students in grade 2 and grade 4 nationally vary by subgroups?
2. How do Kyrgyz and Russian reading outcomes of students in grade 2 and grade 4 differ between TTR-only (group 3) and QRP-only (group 1) schools at baseline, midline, and endline?
3. How do Kyrgyz and Russian reading outcomes of students in grade 2 and grade 4 differ between TTR-only (group 3) and QRP+TTR (group 2) schools at baseline, midline, and endline?
4. How does the proportion of students who can read and understand the meaning of grade level text vary at baseline, midline, and endline in QRP+TTR (group 2) and TTR-only (group 3) schools in grade 2 and grade 4 in Kyrgyz and in Russian?

Results in the report are organized by the language of the assessment—Kyrgyz or Russian—and by grade level—grade 2 and grade 4. Additionally, findings are reported by gender, oblast, location, and student’s age.

TTR drew a representative sample of each of the three school groups for data collection at the midline in 2018. EGRA data collected by QRP in spring 2017 from that project’s treatment school population serve as baseline data for groups 1 and 2. Data from QRP control schools in 2017 serve as baseline data for group 3.⁹

Table 3: EGRA Data Sources

Group	Participation Status in QRP and TTR Interventions Across Time Points		
	April–May 2017 QRP Endline/TTR Baseline	April 2018 TTR Midline	April 2019 TTR Endline
Group 1: QRP-only	QRP Treatment	No TTR Intervention	No TTR Intervention
Group 2: QRP+TTR	QRP Treatment	TTR Intervention	TTR Intervention
Group 3: TTR-only	QRP Control	TTR Intervention	TTR Intervention

METHODS AND LIMITATIONS

This section describes the methods selected to address the study’s research questions, including tool development, study design and sampling, and analysis, as well as the study’s limitations.

Tool development

The TTR midline EGRA builds on previous USAID-funded early grade reading research in the Kyrgyz Republic. After defining the goals of the study, TTR reviewed existing tools and made revisions as

⁹ QRP used a randomized control trial to evaluate the impact of its intervention. Schools that QRP randomly assigned as control did not receive most of the QRP intervention. All such schools are included in the TTR-only school group.

needed. The revised tools were piloted and finalized in the Kyrgyz Republic prior to midline data collection in April 2018. For a more detailed description of this process, see Annex A.

EGRA ADAPTATION

TTR conducted an EGRA adaptation workshop from November 27 to December 1, 2017, with an assessment technical working group (TWG) comprised of local education officials and stakeholders. The workshop adapted updated EGRA tools for both languages and grades based on the existing EGRA tools used in the QRP endline assessment in 2017. SSME tools were developed in consultation with the TWG in a separate workshop in April 2017.

EGRA PILOTING

Pilot data collection of the EGRA and SSME tools developed with the TWG served two purposes: to test the logistical feasibility of the new tools, collect data to identify problematic items on a form, and determine if the test forms are appropriate difficulty for the population of interest; and to evaluate the comparability of the QRP 2017 endline EGRA tools with the newly developed TTR EGRA tools and equate their results. TTR used a different form of the EGRA for each language and each grade at each timepoint—midline and endline—to assess reading progress of students receiving the TTR intervention.

TTR piloted the draft EGRA and SSME tools in February 2018. TTR trained enumerator candidates from February 12 to 16 to administer the EGRA; they collected pilot data from February 19 to March 2 at 29 schools. Following pilot data collection, the study team selected the best-performing subtasks and updated EGRA materials for the spring midline data collection. Analyses included reviewing p-values, sum scores, and fluency scores.

INSTITUTIONAL REVIEW BOARD

Institutional review boards (IRBs) are responsible for ascertaining the acceptability of proposed research regarding institutional commitments and regulations, applicable laws, standards of professional conduct and practice, and ethical and societal norms. IRBs examine subject recruitment procedures, proposed remuneration, and the informed consent process. IRBs also evaluate the potential risks and benefits to participants outlined in each protocol. This EGRA study was approved by an accredited IRB in the United States—Solutions IRB—on January 10, 2018.

EGRA AND SSME TOOLS

The TTR EGRA tools included the subtasks described in Table 4. Dictation, while included in the QRP EGRA tools, was excluded from TTR. A silent reading comprehension subtask was developed by the TWG and piloted; however, it was excluded from midline data collection due to constraints on the length of the assessment. The oral vocabulary subtask was not piloted as it was unchanged from the version used by QRP.

Table 4: Midline EGRA Tools

Subtask	Grade
Letter name identification	Grade 2 only
Initial sound identification	Grade 2 only
Familiar word reading	Both grade 2 and grade 4
Nonword reading	Both grade 2 and grade 4
Oral vocabulary	Both grade 2 and grade 4
Oral reading fluency with comprehension	Both grade 2 and grade 4
Listening comprehension	Both grade 2 and grade 4

The SSME tools used to provide a multifaceted picture of school and classroom management practices are described in Table 5.

Table 5: Midline SSME Tools

Tools	Respondents	Number administered
Student questionnaire	Student (as part of EGRA)	Ten per grade
School inventory, including a grade 2 and grade 4 classroom	Enumerator completes, accompanied by head teacher or deputy director if appropriate	One per school
Head teacher/deputy director interview	Head teacher or deputy director	One per school
Teacher interview	Grade 2 and grade 4 teachers	One per grade (two per school)

Midline data collection sampling

Two samples, a nationally representative and an analytic sample, are described in the following section to meet the requirements of the research questions. The sample used for the nationally representative “snapshot” was a subsample of the larger analytical sample. A stratified random sample was drawn from the full population of public schools offering instruction in Kyrgyz or Russian in the Kyrgyz Republic. All schools were separated into one of the three school groups: QRP-only, QRP+TTR, and TTR-only.¹⁰ Schools were coded as Kyrgyz-medium and/or Russian-medium schools. Schools that offered instruction in both languages were coded as both. Schools were then divided by oblast. Finally, using a random number generator, schools were randomly selected to participate in data collection in proportion with the urban, semi-urban, and rural proportion of schools within that oblast. Schools with fewer than seven students of either gender in grade 2 or grade 4 for the language of interest were excluded from the sample due to logistics of data collection. Students were sampled at the class level by gender.¹¹

NATIONALLY REPRESENTATIVE SAMPLE

Power calculations indicated that a minimum of 290 students per language per grade—with 10 students per school per grade—were needed in order to generalize to the project population.¹² Table 6 shows the required sample size.

Table 6: Number of Student and Schools Required

Language	Students, Grade 2	Students, Grade 4	Schools
Kyrgyz	290	290	29
Russian	290	290	29
Total	580	580	58

¹⁰ Note that this study is not a randomized control trial and schools were not randomly assigned to treatment status. Schools were randomly sampled to participate in data collection according to the stratification described above.

¹¹ To compare by groups, this sample assumes stated power of 0.80, margin of error of 3.9 percent, ICC = 0.25, and $\alpha = 0.05$, to be able to detect an effect size (Cohen’s d) of 0.27 with an overall sample size of 1,800 students per grade per language when assessing 10 students per grade. With these assumptions, this sample size also allows for statistical comparisons by student gender and urbanicity with the ability to detect an effect size of 0.38. With the assumptions noted above and representative coverage of seven oblasts, treating Bishkek as part of Chui and Osh City as part of Osh to minimize sample size, the study can detect effect sizes equal to 0.42.

¹² This sample assumes an ICC of 0.25 (average for these types of studies), a standard deviation of ORF scores based on scores from the QRP Midline Report, and a desired confidence band width of 10 (95 percent confidence that ORF scores are ± 5 points of the mean).

ANALYTIC SAMPLE

To draw statistical comparisons between the three distinct groups—QRP-only, QRP+TTR, and TTR-only—the analytic sample sought the following numbers of students. The sample was drawn as described above

In several cases, a given cluster contained fewer Russian-language schools than required for the sample. In these cases, a census approach was taken, assessing all Russian schools in that cluster.

Table 7: Number of Students and Schools Required by Group

School Group	Language	Grade 2 N Students	Grade 4 N Students	N Schools
QRP-only	Kyrgyz	600	600	60
	Russian	600	600	60
QRP+TTR	Kyrgyz	600	600	60
	Russian	600	600	60
TTR-only	Kyrgyz	600	600	60
	Russian	600	600	60
Total	Kyrgyz	1,800	1,800	180
	Russian	1,800	1,800	180
Grand Total		3,600	3,600	360

Note. While this sample size was necessary for the analytic comparisons, weights were also applied to ensure representativeness of results.

FINAL SAMPLE

At each school, 10 students—five girls and five boys—in each grade were randomly selected and assessed per day. During the course of this study, 15 schools (5.2 percent of the final sample) required replacements. TTR’s experience during EGRA administration brought to light gaps between the education management information system (EMIS) data set and realities on the ground. The discrepancies were related to differences in the school characteristics, grades available, and languages of instruction. Table 8 shows the achieved sample size.

Table 8: Number of Student and Schools Sampled

School Group	Language	Grade 2 N Students	Grade 4 N Students	N Schools
QRP-only	Kyrgyz	561	550	57
	Russian	548	543	57
QRP+TTR	Kyrgyz	529	519	54
	Russian	128	129	13
TTR-only	Kyrgyz	564	553	57
	Russian	506	497	51
Total	Kyrgyz	1,654	1,622	168
	Russian	1,182	1,169	121
Grand Total		2,836	2,791	289

Data collection

This section describes what transpired during midline operational data collection, including enumerator training, operational data collection, and data entry and cleaning. For more detail about these activities and the processes followed during them, see Annex B.

ENUMERATOR TRAINING

TTR trained 83 enumerator candidates on EGRA administration and protocols from April 1 to 6, 2018, in Bishkek. Forty-eight individuals were selected to join data collection as EGRA enumerators, 24 as supervisors, and two as quality control officers (QCOs). The training focused on the specific contents of each of the EGRA subtasks; specific administration protocols on the data collection software, use of tablets; and the roles and responsibilities of enumerators, supervisors, and QCOs during data collection. The training included one day of field testing in nearby schools. TTR selected enumerators based on performance in three scored enumerator accuracy quizzes.

DATA COLLECTION

Midline data collection took place in every oblast of the Kyrgyz Republic in April 2018. The 24 teams—14 Kyrgyz-speaking and 10 Russian-speaking—collected midline data from April 10 to 27. Each team visited one school per day. In rare cases, schools were visited multiple times, once for Kyrgyz-language assessments and once for Russian-language assessments. Two hundred and ninety-eight schools were assessed.¹³ Each of the 24 teams consisted of one supervisor, who also administered the SSME tools, and two EGRA enumerators.

School-to-School International (STS), through ISR, implemented a number of strategies to track the progress of data collection as well as provide oversight and quality assurance check on the EGRA and SMES data collection. STS staff visited 23 schools in person to observe data collection. ISR visited all schools in the south and about half of schools in the north. Each team was visited at least once, and many teams were visited several times.

DATA ENTRY AND CLEANING

Throughout operational data collection, TTR followed the guidance laid out in the EGRA Toolkit 2.0,¹⁴ by regularly uploading and reviewing data in order to better manage and track data collection issues and progress. QCOs ensured data collection procedures were followed and submitted daily reports that logged any discrepancies in the number and type of data collected that differed from the intended sample.¹⁵ These reports were later cross-referenced against the uploaded data in Tangerine and Ona. Disposition codes were applied to categorize the various issues or problems that emerged in the data collection process. These codes were used in determining cleaning rules that were incorporated into the database using syntax to clean the data accordingly. These coding and flagging procedures helped to ensure the various and nuanced context of the data collection at the school level were sufficiently cataloged and considered during the data cleaning, analysis, and reporting process.

¹³ Nine schools were visited by data collection teams but not included in the analysis as these schools were not included in the original sample.

¹⁴ RTI International. *Early Grade Reading Assessment (EGRA) Toolkit, Second Edition*. (Washington, DC: United States Agency for International Development, 2015). p. 103.

¹⁵ These reports documented the school demographics, type and number of each assessment or questionnaire collected, status of data upload, and any other issues or challenges encountered that day in the school.

Analytic methods

This section describes how midline results were equated with results from a previous project, how weights were calculated and applied to ensure representativeness in results, and how findings were generated. For more technical details about these methods, see Annex C.

EQUATING

One of the objectives of the current study is to compare the average performance of students participating in TTR with the average performance of students who participated in QRP. To that end, it was necessary to conduct a procedure known as *statistical equating*, which brings the scores of two forms of a test into a common scale. Statistical equating is a required procedure to establish comparisons across EGRA administrations because some forms may be more difficult than others, making it difficult to gauge the magnitude of the differences in the performance of students who take different forms. Equating techniques vary according to their data collection design and the statistical methods chosen.

The equating procedure used was meant to adjust the scores of the TTR forms to render them equivalent to those of the QRP forms. Equating methodologies recommended by the EGRA Toolkit 2.0 were followed. The data collection design was a single-group design in which the same students took both forms—TTR and QRP—enabling analysts to directly attribute differences in difficulties to the items included in each form.

SAMPLE WEIGHTING

TTR midline analysis used sampling weights to produce more representative estimates in the sample of students. Random sampling does not acknowledge that some students have less probability of being selected when they represent smaller subgroups within the population; sampling weights allow the analysts to account for these differences in probabilities.

Analysts computed the weights using variables, including the type of school, oblast, location, language of instruction (LOI), and number of grade 2 and 4 classrooms and students in each classroom at each school. STS collected information from the project via several datasets and spreadsheets; yet, some information was missing, and certain characteristics were inconsistent across the sources and variables. Two datasets were created for the purposes of computing sampling weights for each grade level and LOI—a complete list of Kyrgyz schools and a complete list of Russian schools.

QUALITY OF ASSESSMENT TOOL

Analyzing the quality of the assessment ensures that the conclusions drawn about student performance on the assessment are valid. The quality of the assessment tool was analyzed in four ways: first, correlations between each subtask of the EGRA were analyzed; second, internal consistency of the full EGRA assessment was analyzed using coefficient alpha and percentage correct scores; third, the internal consistency of each subtask was analyzed using coefficient alpha; and fourth, item analyses were completed. All results are contained in Annex E.

GENERATION OF FINDINGS

After applying equating and weighting functions, analysts generated reliability estimates of each subtask, subtask and item statistics, and timed and untimed subtask scores. Mean scores, zero scores, and reading benchmark results for 2018 data were produced for each of the disaggregated groups of interest. Differences between within-group categories were analyzed using t-tests for mean score comparisons and chi-square tests for zero-score and reading-benchmark comparisons. Comparisons of 2017 to 2018 results by school group were made using a *difference-in-differences* approach that shows the

difference in the rate of change in student outcomes between the groups of interest. Comparisons of mean difference-in-differences between the TTR-only school group and the other two groups provides estimates of how TTR may affect student performance in the short time since the intervention began reaching students.

Data for the SSME questionnaires and inventories were correlated with scores on the ORF subtask to identify student and school characteristics that are linked to the subtask scores. Those items with statistically significant correlations with ORF were included in a linear regression model to understand the extent to which they predicted ORF scores.

All analysis was completed using SPSS Version 25 software.

Limitations

This EGRA report seeks to answer the research questions within the study design described above. Given the context of TTR implementation, including the rich history of USAID support to early grade reading education in the Kyrgyz Republic, it is important to note the inherent limitations of this EGRA study.

Data collection tools were revised. This report uses data from EGRA tools developed by different projects and at different points in time. QRP EGRA tools were produced prior to the release of the EGRA Toolkit, 2nd Edition, and were revised under TTR to align with more recent EGRA guidance. Subtasks have been equated to the extent possible. See Annex C for additional equating details.

TTR exposure was limited at midline. Teacher and student exposure to the TTR intervention was limited to approximately three months maximum at the time of data collection for this midline report due to delays in implementation caused by external factors. Results may not reflect gains in student outcomes that would be expected with a full year of implementation.

Attribution of the TTR intervention on reading outcomes as measured by EGRA is limited. TTR is primarily an implementation project that does not randomly assign schools to treatment conditions. This design of the project intervention ruled out an experimental design or a randomized control trial. Further, most schools in the Kyrgyz Republic have participated in the previous USAID-funded reading intervention, QRP, and **all** eligible schools that did not participate in QRP are receiving TTR interventions. An appropriate comparison population, or control group, of schools does not exist in the country, limiting the counterfactual evidence available to be collected for this study. This report presents results from three different populations of schools receiving USAID support of different modes and timing. While this report shows differences in performance between school populations, these differences cannot necessarily be attributed to results of programming.

Use caution in comparing EGRA results across years and across programs. The timing of TTR implementation precluded collection of pre-implementation baseline data. QRP control school data used as a baseline for TTR-only schools may not be fully representative of that group. To the extent possible, STS took additional steps to create a matched sample at midline by controlling for urban and rural status.

Given differences in project intervention, timing, national-level trends, and sampling, comparisons of year-on-year results across projects should be made with caution. For example, at the time of QRP's midline data collection in 2016, selected schools had participated in the project for two full years, receiving significant exposure to QRP's revised classroom practice and new approaches to learning reading skills.

The EGRA results do not provide appropriate data for cross-linguistic comparisons; that is, the report does not statistically compare student reading skills in Kyrgyz with student reading skills in Russian. Acquisition of language and reading development depends on several factors including the different levels of orthographic transparency, visual complexity, and phonology.

EGRA RESULTS

This section reports results by the study's four research questions. Parts 1 to 4 respond to the first research question: *national trends in students' reading outcomes in Kyrgyz and Russian*. Part 1 examines yearly results from 2014 to 2018, while Parts 2, 3, and 4 examine 2018 results only by gender, urbanicity, and oblast, respectively. Part 5 of this section responds to the second research question: *2018 reading outcome results by the three groups of schools in the study*. Part 6 responds to the third research question: *differences in reading outcomes for students in 2017 compared with 2018 by school group*. Part 7 of this section responds to the fourth and final research question: *reading benchmark results for students benefiting from the TTR intervention*.

Results for students in Kyrgyz- and Russian-medium schools are referred to as Kyrgyz and Russian, respectively. Results that are statistically significant at the $p < 0.05$ level are referred to as significantly lower or higher in the text.

Part 1: National-level EGRA results from 2014-2018

This section compares national-level EGRA results from students in 2014, 2015–16—referred to only as 2016 hereafter—2017, and 2018. Although this study's research questions focus primarily on 2017 versus 2018 results, 2014 and 2016 results were included in the analysis to provide greater context to changes in national-level performance over time. The 2018 results are based on data collected as part of this study; however, prior years' results are based on data collected as part of QRP. To facilitate comparability across years, 2018 scores across selected subtasks have been equated to the 2014–17 scores from QRP. For each subtask, trends in student performance across years are discussed.¹⁶ While trends are presented here, figures of mean scores are presented in Annex H. Additionally, tables of mean scores, zero scores, and reading benchmark results are presented in Annex I.

KYRGYZ GRADE 2 RESULTS BY YEAR

Grade 2 students in 2018 outperformed students in 2014 on four subtasks and students in 2016 on two subtasks; however, they did not outperform students in 2017 on any subtasks (Table 9).¹⁷ On ORF, grade 2 students in 2018 outperformed grade 2 students in 2014 but performed comparably to students in 2016 and 2017. On the initial sound identification, reading comprehension, and listening comprehension subtasks, however, students in 2018 performed significantly lower than students in all prior years.

KYRGYZ GRADE RESULTS 4 BY YEAR

Grade 4 students in 2018 outperformed students in 2014 on three subtasks, students in 2016 on one subtask, and students in 2017 on two subtasks (Table 9).¹⁸ Students in 2018 performed higher than students in all prior years on the nonword reading subtask but lower than students in all prior years on the familiar word reading subtask. On ORF, 2018 results were higher than 2014 but lower than in both 2016 and 2017.

¹⁶ Comparisons focus solely on 2018 results versus the three previous years' results.

¹⁷ For Kyrgyz grade 2, students in 2018 outperformed students in 2014 on the letter name identification, familiar word reading, nonword reading, and ORF subtasks; students in 2018 outperformed students in 2016 on the familiar word reading and oral vocabulary subtask.

¹⁸ For Kyrgyz grade 4, students in 2018 outperformed students in 2014 on the nonword reading, ORF, and listening comprehension subtasks; students in 2018 outperformed students in 2016 on the nonword reading subtask.

Table 9: Trends in Grade 2 and Grade 4 Student Reading Performance in Kyrgyz by Subtask and Year

EGRA Subtask	Kyrgyz Grade 2			Kyrgyz Grade 4		
	2018 compared with...			2018 compared with...		
	2014	2016	2017	2014	2016	2017
Letter name identification (equated)	↑	↓	↔	n/a	n/a	n/a
Initial letter sound (equated)	↓	↓	↓	n/a	n/a	n/a
Familiar word reading (equated)	↑	↑	↔	↓	↓	↓
Nonword reading (equated)	↑	↔	↔	↑	↑	↑
Oral vocabulary	↔	↑	↔	↔	↔	↓
Oral reading fluency (equated)	↑	↔	↔	↑	↓	↓
Reading comprehension	↓	↓	↓	↓	↓	↑
Listening comprehension	↓	↓	↓	↑	↔	↓

Note: ↑ indicates that the mean score for students in 2018 was significantly higher than the mean score for students in the comparison year; ↓ indicates that the mean score for students in 2018 was significantly lower than the mean score for students in the comparison year; and ↔ indicates that the mean score for students in both years was comparable. For all comparisons, $p < 0.05$.

RUSSIAN GRADE 2 RESULTS BY YEAR

Grade 2 students in 2018 outperformed students in 2014 on two subtasks and students in 2016 on one subtask; however, students in 2018 did not outperform students in 2017 on any subtasks (Table 10).¹⁹ On ORF, grade 2 students in 2018 outperformed grade 2 students in 2014 but performed comparably to students in 2016 and 2017. On the initial sound identification and in reading comprehension subtasks, however, students in 2018 performed significantly lower than students in all prior years.

RUSSIAN GRADE 4 RESULTS BY YEAR

Grade 4 students in 2018 outperformed students in 2014 on one subtask, students in 2016 on one subtask, but did not outperform students in 2017 on any subtasks (Table 10).²⁰ On ORF, grade 4 students in 2018 performed lower than grade 4 students in 2016 and 2017 but performed comparably to students in 2014. On the nonword reading and listening comprehension subtasks, students in 2018 performed significantly lower than students in all prior years.

Table 10: Trends in Grade 2 and Grade 4 Student Reading Performance in Russian by Subtask and Year

EGRA Subtask	Russian Grade 2			Russian Grade 4		
	2018 compared with...			2018 compared with...		
	2014	2016	2017	2014	2016	2017
Letter name identification (equated)	↓	↓	↓	n/a	n/a	n/a
Initial letter sound (equated)	↓	↓	↓	n/a	n/a	n/a
Familiar word reading (equated)	↑	↓	↔	↑	↓	↓
Nonword reading (equated)	↔	↓	↓	↓	↓	↓
Oral vocabulary	↔	↔	↓	↓	↑	↓
Oral reading fluency (equated)	↑	↓	↔	↔	↓	↓
Reading comprehension	↓	↓	↓	↓	↔	↓
Listening comprehension	↓	↑	↔	↓	↓	↓

Note: ↑ indicates that the mean score for students in 2018 was significantly higher than the mean score for students in the comparison year; ↓ indicates that the mean score for students in 2018 was significantly lower than the mean score for students in the comparison year; and ↔ indicates that the mean score for students in both years was comparable. For all comparisons, $p < 0.05$.

Part 2: 2018 EGRA results by gender

In this section, trends in 2018 student performance by gender across subtasks are discussed. While trends are presented here, figures of mean scores by gender are presented in Annex H. Additionally, tables of mean scores, zero scores, and reading benchmark results by gender are presented in Annex I.

KYRGYZ GRADE 2 RESULTS BY GENDER

Grade 2 girls performed significantly higher than grade 2 boys on nearly all subtasks (Table 11). On ORF, for example, girls read nearly 42 correct words per minute on average, while boys read just below 35 correct words per minute. On the reading comprehension subtask, girls correctly answered 55.20 percent of the questions, while boys correctly answered 40.63 percent of the questions. For some subtasks, the performance of girls versus boys differed by school group. On the ORF subtask, for

¹⁹ In Russian in grade 2, students in 2018 outperformed students in 2014 on the familiar word reading and ORF subtasks; students in 2018 outperformed students in 2016 on the listening comprehension subtask.

²⁰ In Russian in grade 4, students in 2018 outperformed students in 2014 on the familiar word reading subtask; students in 2018 outperformed students in 2016 on the oral vocabulary subtask.

example, girls in both the TTR-only and the QRP+TTR groups scored significantly higher than their male peers. In the QRP-only group, however, differences in means scores between girls and boys were not statistically significant.

KYRGYZ GRADE 4 RESULTS BY GENDER

Grade 4 girls scored significantly higher than grade 4 boys on four of the six subtasks, and these results were true across treatment groups and location (Table 11). On ORF, girls read an average of 77.75 correct words per minute, a rate that was more than ten words per minute faster than boys. On average, girls answered 69.98 percent of the reading comprehension questions correctly compared with 57.59 percent for boys. The only subtask on which boys scored significantly higher than girls was the listening comprehension.

Table 11: Trends in Grade 2 and Grade 4 Student Reading Performance in Kyrgyz by Subtask and Gender, 2018

EGRA Subtask	Kyrgyz Grade 2	Kyrgyz Grade 4
	Girls compared with... Boys	Girls compared with... Boys
Letter name identification (equated)	↑	n/a
Initial letter sound (equated)	↑	n/a
Familiar word reading (equated)	↑	↑
Nonword reading (equated)	↑	↑
Oral vocabulary	↔	↔
Oral reading fluency (equated)	↑	↑
Reading comprehension	↑	↑
Listening comprehension	↔	↓

Note: ↑ indicates that the mean score for girls in 2018 was significantly higher than the mean score for boys in 2018; ↓ indicates that the mean score for girls in 2018 was significantly lower than the mean score for boys in 2018; and ↔ indicates that the mean score for girls and boys in 2018 was comparable. For all comparisons, p<0.05. Trends based on main effects for gender.

RUSSIAN GRADE 2 RESULTS BY GENDER

Grade 2 girls performed significantly better than boys on the letter name identification, familiar word reading, nonword reading, and ORF subtasks (Table 12). When controlling for factors such as school group and location, however, differences between girls' and boys' scores on these subtasks were not statistically significant. The only subtask on which boys and girls demonstrated differences when controlling for school group and location was listening comprehension, a subtask on which boys scored significantly higher than girls.

RUSSIAN GRADE 4 RESULTS BY GENDER

Grade 4 girls performed significantly better than boys on the letter naming, familiar word reading, nonword reading, and ORF subtasks (Table 12). This was true even when controlling for school group and location. Of note, girls also scored significantly higher than boys on the reading comprehension subtask, although this was not true for all school groups. In the QRP+TTR group, girls scored significantly higher than boys, while in the QRP-only and TTR-only groups, the differences between girls and boys were not statistically significant.

Table 12: Trends in Grade 2 and Grade 4 Student Reading Performance in Russian by Subtask and Gender, 2018

EGRA Subtask	Kyrgyz Grade 2	Kyrgyz Grade 4
	Girls compared with...	Girls compared with...
	Boys	Boys
Letter name identification (equated)	↑	n/a
Initial letter sound (equated)	↔	n/a
Familiar word reading (equated)	↑	↑
Nonword reading (equated)	↑	↑
Oral vocabulary	↔	↑
Oral reading fluency (equated)	↑	↑
Reading comprehension	↔	↑
Listening comprehension	↓	↔

Note: ↑ indicates that the mean score for girls in 2018 was significantly higher than the mean score for boys in 2018; ↓ indicates that the mean score for girls in 2018 was significantly lower than the mean score for boys in 2018; and ↔ indicates that the mean score for girls and boys in 2018 was comparable. For all comparisons, $p < 0.05$. Trends based on main effects for gender.

Part 3: 2018 EGRA results by location

This section presents 2018 results by school location: urban, semi-urban, or rural. Due to the disproportionately low number of urban and semi-urban schools relative to rural schools, the urban and semi-urban categories were combined and are referred to only as “urban.” Rural and urban schools were sampled proportionately to the population of rural and urban schools in each region. Because the number of rural schools nationally and by region far outnumber the number of urban schools, the sample across grades and languages was imbalanced in favor of rural students.²¹ While trends are presented here, figures of mean scores by location are presented in Annex H. Additionally, tables of mean scores, zero scores, and reading benchmark results by location are presented in Annex I.

²¹ In the Kyrgyz Grade 2 and 4 samples, approximately 85 percent of students were from rural areas. In the Russian Grade 2 and Grade 4 samples, approximately 62 percent of students were from rural areas.

KYRGYZ GRADE 2 RESULTS BY LOCATION

On average, Kyrgyz grade 2 students from urban schools scored significantly higher than Kyrgyz grade 2 students from rural schools on three subtasks: familiar word reading, ORF, and reading comprehension (Table 13). Differences in performance between urban and rural students held true for some school groups only. With the ORF and reading comprehension subtasks, urban students scored significantly higher than rural students in the TTR-only group, but urban student and rural student performance on these two subtasks was comparable in the other two groups. On the initial sound identification subtask, rural students scored significantly higher than urban students across all three school groups. On all other subtasks, there was no significant difference between urban and rural student’s mean scores.

KYRGYZ GRADE 4 RESULTS BY LOCATION

Kyrgyz grade 4 urban students scored significantly higher than Kyrgyz grade 4 rural students on four subtasks: familiar word reading, nonword reading, ORF, and reading comprehension (Table 13). On ORF, for example, urban students’ average fluency rate was approximately 20 correct words per minute faster than rural students. For the four subtasks on which urban students’ mean scores were significantly higher than rural students’ mean scores, the urban-rural gap was present in QRP-only and TTR-only schools but not in QRP+TRR schools.

Table 13: Trends in Grade 2 and Grade 4 Student Reading Performance in Kyrgyz by Subtask and Location, 2018

EGRA Subtask	Kyrgyz Grade 2		Kyrgyz Grade 4	
	Rural compared with...		Rural compared with...	
	Urban		Urban	
Letter name identification (equated)		↓		n/a
Initial letter sound (equated)		↑		n/a
Familiar word reading (equated)		↓		↓
Nonword reading (equated)		↓		↓
Oral vocabulary		↓		↔
Oral reading fluency (equated)		↓		↓
Reading comprehension		↓		↓
Listening comprehension		↔		↔

Note: ↑ indicates that the mean score for rural students in 2018 was significantly higher than the mean score for urban students in 2018; ↓ indicates that the mean score for rural students in 2018 was significantly lower than the mean score for urban students in 2018; and ↔ indicates that the mean score for rural and urban students in 2018 was comparable. For all comparisons, $p < 0.05$. Trends based on main effects for location.

RUSSIAN GRADE 2 RESULTS BY LOCATION

Across all eight subtasks, Russian grade 2 urban students scored significantly higher than Russian grade 2 rural students (Table 14). On ORF, for example, grade 2 urban students read an average of 47.05 correct words per minute, while rural students read an average of 41.96 correct words per minute. Although urban students outperformed rural students, this was not true across all school groups. On the letter name identification, familiar word reading, nonword reading, ORF, and reading comprehension subtasks, urban students scored significantly higher than rural students in both the QRP-only and QRP+TTR groups. Across these same subtasks in the TTR-only group, however, urban and rural student performance was comparable.

RUSSIAN GRADE 4 RESULTS BY LOCATION

As with results for students in Russian grade 2, Russian grade 4 results also show a gap between urban and rural students' performance (Table 14). In grade 4, urban students outperformed their peers in rural schools on all six subtasks tested at a rate that was statistically significant. Similar to grade 2 results, differences between urban and rural students' performance were not statistically significant across all school groups. On all six subtasks, the urban-rural gap was present in the QRP-only and QRP+TTR groups but not in the TTR-only group.

Table 14: Trends in Grade 2 and Grade 4 Student Reading Performance in Russian by Subtask and Location, 2018

EGRA Subtask	Russian Grade 2	Russian Grade 4
	Rural compared with... Urban	Rural compared with... Urban
Letter name identification (equated)	↓	n/a
Initial letter sound (equated)	↓	n/a
Familiar word reading (equated)	↓	↓
Nonword reading (equated)	↓	↓
Oral vocabulary	↓	↓
Oral reading fluency (equated)	↓	↓
Reading comprehension	↓	↓
Listening comprehension	↓	↓

Note: ↑ indicates that the mean score for rural students in 2018 was significantly higher than the mean score for urban students in 2018; ↓ indicates that the mean score for rural students in 2018 was significantly lower than the mean score for urban students in 2018; and ↔ indicates that the mean score for rural and urban students in 2018 was comparable. For all comparisons, $p < 0.05$. Trends based on main effects for location.

Part 4: 2018 EGRA results by oblast

The Kyrgyz Republic is divided into seven regions or *oblasts*. The study was designed to compare results across these seven regions. Results presented in this section summarize trends in student performance on each subtask across the seven regions. Of note, the capital city of Bishkek located in Chui region and Osh City located in Osh region are both administratively independent, and national-level results for these two cities are often reported separately from their respective oblasts. Tables of mean scores, zero scores, and reading benchmark results by oblast appear in Annex I and report on Bishkek and Osh City separately. Findings reference Bishkek and Osh City results where relevant. Results for students in Kyrgyz- and Russian-medium schools are referred to as Kyrgyz and Russian, respectively.

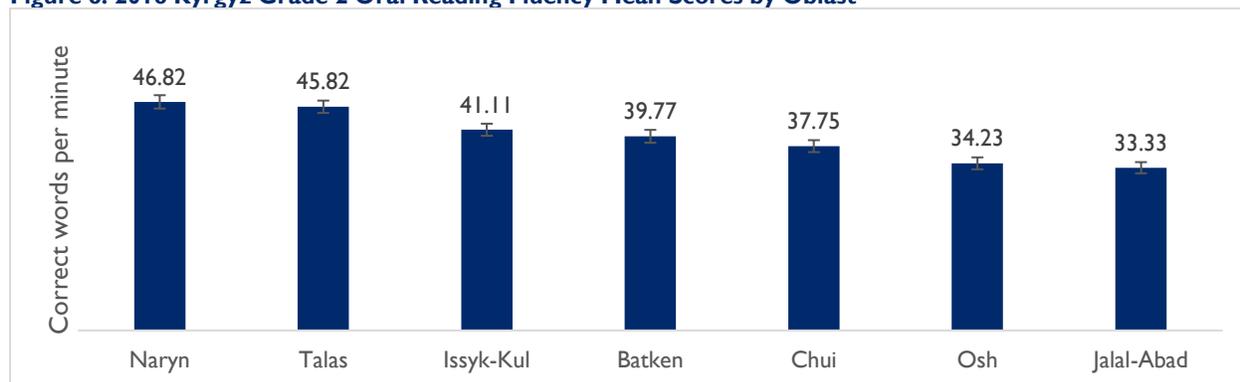
KYRGYZ GRADE 2 RESULTS BY OBLAST

Table 15 shows a rank ordering of how grade 2 Kyrgyz students performed by oblast on the 2018 midline assessment across subtasks. In general, students from schools located in Issyk-Kul, Naryn, and Talas had the highest relative mean scores, while students from Jalal-Abad and Osh had the lowest relative mean scores. Students from Batken and Chui generally were in the middle of the rank order. This pattern of results was true across most subtasks and is illustrated by the ORF results in Figure 8. When Bishkek and Osh City results were examined separate from schools in their respective regions, mean scores from Bishkek were typically between the top three of the rank ordering while mean scores from Osh City were in the middle.

Table 15: 2018 Kyrgyz Grade 2 EGRA Rank-Order Mean Scores by Oblast across Subtasks

Rank Order (high to low)	Letter name identification	Initial sound identification	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
1	Issyk-Kul	Jalal-Abad	Talas	Issyk-Kul	Naryn	Naryn	Issyk-Kul	Naryn
2	Talas	Osh	Naryn	Naryn	Batken	Talas	Talas	Issyk-Kul
3	Chui	Naryn	Issyk-Kul	Talas	Talas	Issyk-Kul	Naryn	Batken
4	Naryn	Issyk-Kul	Chui	Batken	Chui	Batken	Batken	Osh
5	Batken	Talas	Batken	Chui	Jalal-Abad	Chui	Chui	Talas
6	Osh	Batken	Osh	Osh	Issyk-Kul	Osh	Osh	Chui
7	Jalal-Abad	Chui	Jalal-Abad	Jalal-Abad	Osh	Jalal-Abad	Jalal-Abad	Jalal-Abad

Figure 8: 2018 Kyrgyz Grade 2 Oral Reading Fluency Mean Scores by Oblast



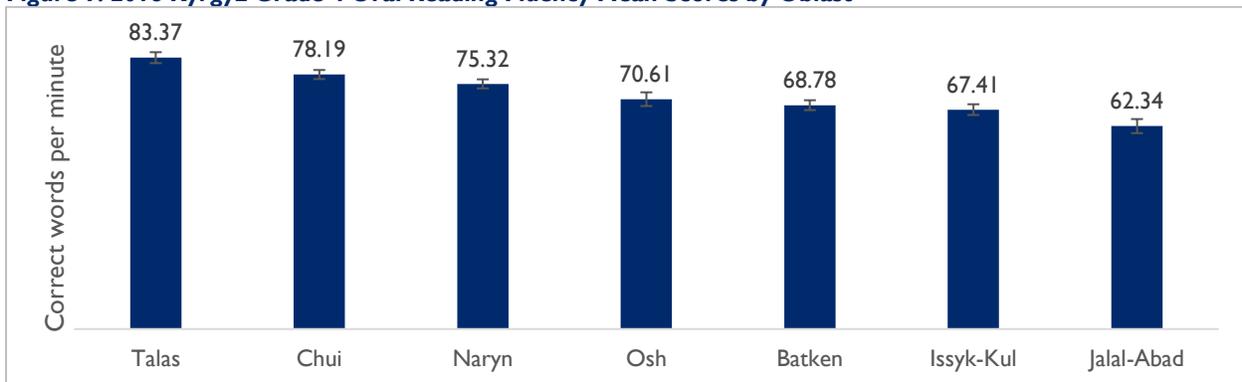
KYRGYZ GRADE 4 RESULTS BY OBLAST

Table 16 shows a rank ordering of grade 4 students performance in Kyrgyz by oblast across subtask. Generally, students from schools located in Chui and Talas had the highest relative mean scores, while students from schools located in Jalal-Abad had the lowest relative mean scores. Mean scores from the other four oblasts generally were in the middle of the rank order. This pattern of results was true across most subtasks and is illustrated for the ORF subtask in Figure 9. When Bishkek and Osh City results were considered separately from other schools in the region, mean scores from both cities typically fell among the top three in the rank order.

Table 16. 2018 Kyrgyz Grade 4 EGRA Rank-Order Mean Scores by Oblast across Subtasks

Rank Order (high to low)	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
1	Chui	Chui	Naryn	Talas	Batken	Naryn
2	Talas	Talas	Issyk-Kul	Chui	Issyk-Kul	Issyk-Kul
3	Naryn	Osh	Batken	Naryn	Naryn	Batken
4	Issyk-Kul	Naryn	Talas	Osh	Talas	Osh
5	Batken	Issyk-Kul	Jalal-Abad	Batken	Chui	Jalal-Abad
6	Osh	Batken	Chui	Issyk-Kul	Osh	Talas
7	Jalal-Abad	Jalal-Abad	Osh	Jalal-Abad	Jalal-Abad	Chui

Figure 9: 2018 Kyrgyz Grade 4 Oral Reading Fluency Mean Scores by Oblast



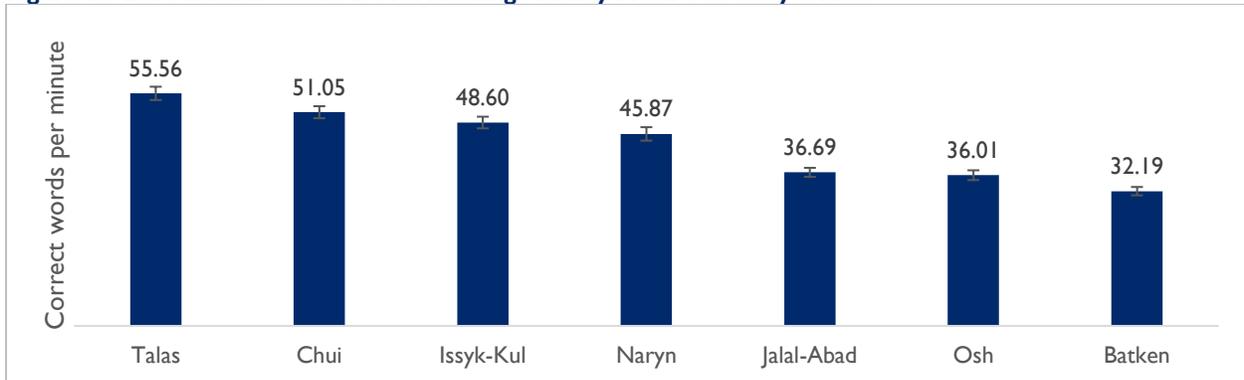
RUSSIAN GRADE 2 RESULTS BY OBLAST

Table 17 shows a rank ordering of grade 2 students performance in Russian by oblast across subtasks. Generally, students from schools located in Chui, Issyk-Kul, Naryn, and Talas had the highest relative mean scores, while students from Jalal-Abad, Batken, and Osh had the lowest relative mean scores. This pattern of results was true across nearly all subtasks and is best illustrated by the ORF results (Figure 10). When Bishkek and Osh City results were considered separate from other schools in the region, mean scores for students in Bishkek typically were among the top three in the rank order, while mean scores from Osh City were in the middle.

Table 17: 2018 Russian Grade 2 EGRA Rank-Order Mean Scores by Oblast across Subtasks

Rank Order (high to low)	Letter name identification	Initial sound identification	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
1	Talas	Batken	Talas	Talas	Talas	Talas	Chui	Chui
2	Issyk-Kul	Osh	Issyk-Kul	Issyk-Kul	Chui	Chui	Talas	Talas
3	Chui	Talas	Chui	Chui	Issyk-Kul	Issyk-Kul	Naryn	Naryn
4	Osh	Issyk-Kul	Naryn	Naryn	Naryn	Naryn	Issyk-Kul	Issyk-Kul
5	Batken	Naryn	Batken	Jalal-Abad	Batken	Jalal-Abad	Osh	Osh
6	Jalal-Abad	Jalal-Abad	Jalal-Abad	Osh	Jalal-Abad	Osh	Jalal-Abad	Batken
7	Naryn	Chui	Osh	Batken	Osh	Batken	Batken	Jalal-Abad

Figure 10: 2018 Russian Grade 2 Oral Reading Fluency Mean Scores by Oblast



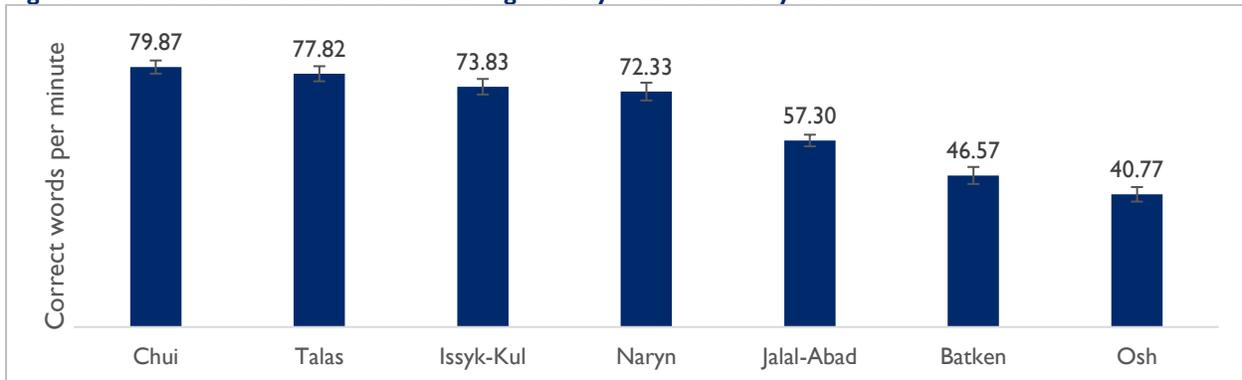
RUSSIAN GRADE 4 RESULTS BY OBLAST

Table 18 shows a rank ordering of grade 4 students performance in Russian in 2018 by oblast and subtask. As with the Russian grade 2 results, students from schools located in Chui, Issyk-Kul, Naryn, and Talas had the highest relative mean scores, while students from schools located in Batken, Osh, and Jalal-Abad had the lowest relative mean scores. This pattern of results was true across all subtasks and is illustrated by the ORF results shown in Figure 11. When Bishkek and Osh City results were considered separate from other schools in the region, mean scores for students in Bishkek were generally near the top of the rank ordering while means scores for students in Osh City were generally near the bottom of the rank order.

Table 18: 2018 Russian Grade 4 EGRA Rank-Order Mean Scores by Oblast across Subtasks

Rank Order (high to low)	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
1	Talas	Issyk-Kul	Talas	Chui	Talas	Talas
2	Issyk-Kul	Talas	Chui	Talas	Chui	Naryn
3	Chui	Naryn	Naryn	Issyk-Kul	Naryn	Chui
4	Naryn	Chui	Issyk-Kul	Naryn	Issyk-Kul	Issyk-Kul
5	Jalal-Abad	Jalal-Abad	Jalal-Abad	Jalal-Abad	Jalal-Abad	Osh
6	Batken	Batken	Batken	Batken	Osh	Jalal-Abad
7	Osh	Osh	Osh	Osh	Batken	Batken

Figure 11: 2018 Russian Grade 4 Oral Reading Fluency Mean Scores by Oblast



Part 5: 2018 EGRA results by school group

The preceding parts of this report summarized reading results for students in 2018 compared with students in prior years and by subgroups. In the subsequent parts, results for students in 2018 are compared by school group. The three school groups are

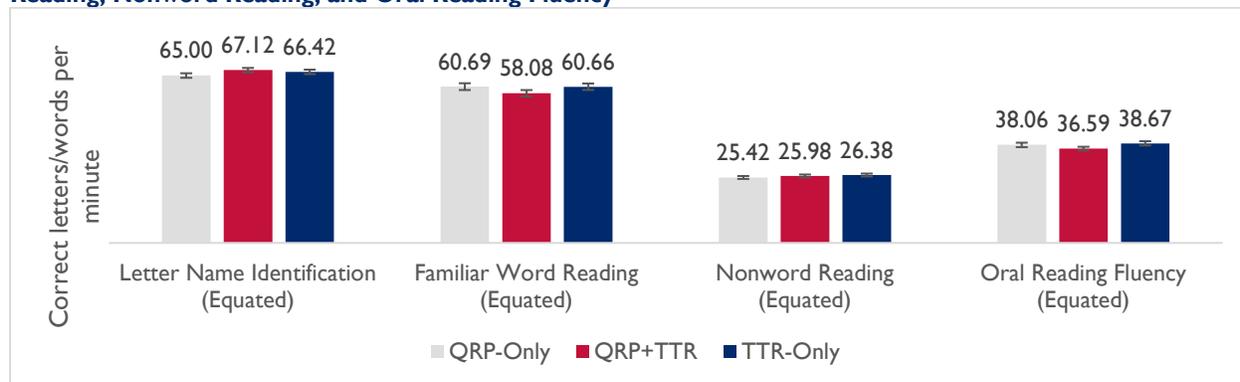
- **Group 1:** public schools with primary grades that received the USAID-funded QRP interventions and do not receive TTR interventions (QRP-only)
- **Group 2:** public schools with primary grades that received QRP and now receive TTR interventions (QRP+TTR)
- **Group 3:** public schools with primary grades that did not receive QRP interventions and now receive TTR interventions (TTR-only)

Findings compare the performance of 2018 students in the first group (TTR-only group) with the second and third groups (QRP-only and QRP+TTR). The analysis did not look at differences between the QRP-only and the QRP+TTR groups. Tables of mean score, zero score, and reading benchmark results by school group, can be found in Annex VI.

KYRGYZ GRADE 2 RESULTS BY SCHOOL GROUP

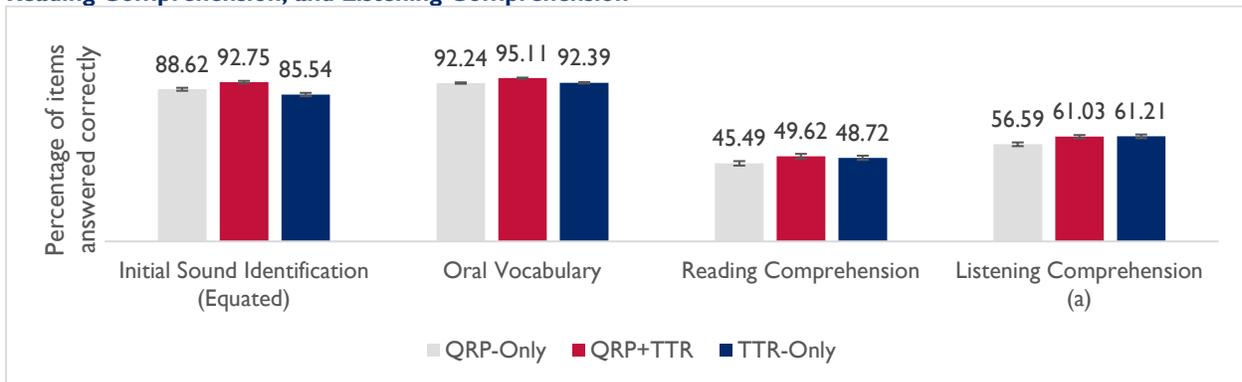
Figure 12 and Figure 13 show mean scores for Kyrgyz grade 2 students by school group across subtasks. On nearly all subtasks, students from the TTR-only group had comparable mean scores to students from the other two groups. Differences by school group were observed only on the listening comprehension subtask: TTR-only students scored significantly higher than QRP-only students.

Figure 12: 2018 Kyrgyz Grade 2 Mean Scores by School Group—Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



Note: Differences between the TTR-only group and either the QRP-only or QRP+TTR groups are not statistically significant ($p < 0.05$) across any of the subtasks.

Figure 13: 2018 Kyrgyz Grade 2 Mean Scores by School Group—Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension



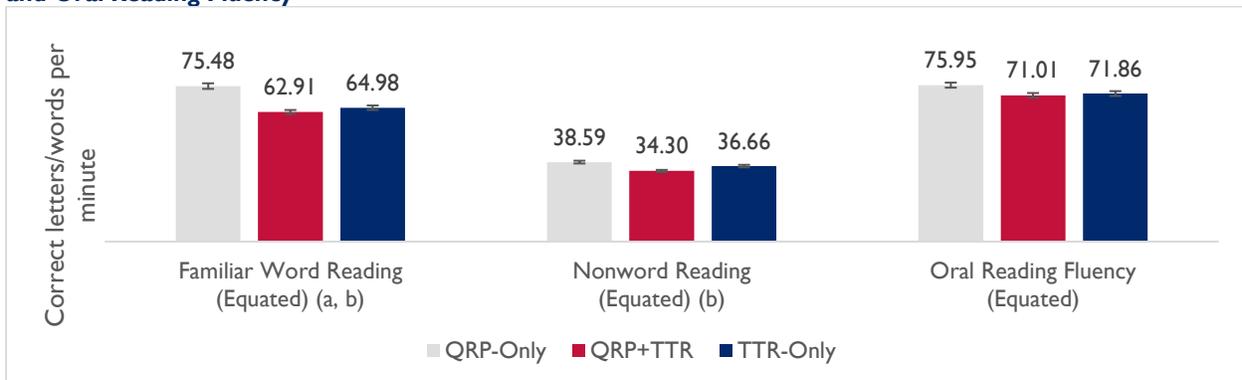
Subtasks marked with the letter “a” denotes differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$.

KYRGYZ GRADE 4 RESULTS BY SCHOOL GROUP

Figure 14 and Figure 15 show 2018 results for grade 4 Kyrgyz students by school group. First, the performance between students in TTR-only schools was compared with the performance of students in QRP-only schools. For four of the six subtasks, there was no statistically significant difference in performance between students in these two groups. The two exceptions were the familiar word reading subtask, on which TTR-only students scored lower, and the listening comprehension subtask, on which TTR-only students scored higher. Differences in mean scores were further examined by school group and location—and the differences by school group on familiar word reading held true for urban schools only.

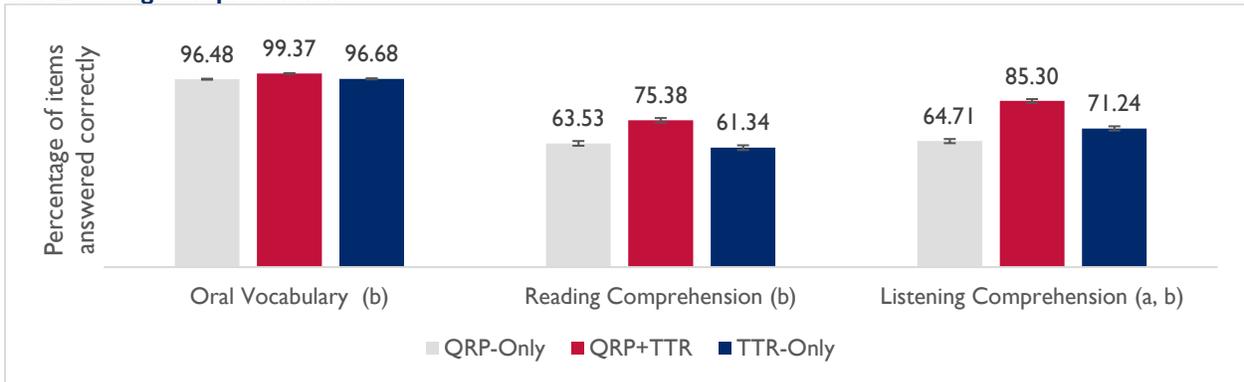
Second, the results were compared between students in TTR-only schools and TTR+QRP schools. On the nonword reading subtask, grade 4 students from the TTR-only group scored significantly higher than students from the QRP+TTR group. This finding held true for students in urban schools only (Figure 16). On the oral vocabulary, reading comprehension, and listening comprehension subtasks, the TTR-only group scored significantly lower than the QRP+TTR group. Location mattered, however; the differences between the TTR-only and QRP+TTR groups were observed for students in rural schools but not urban schools.

Figure 14: 2018 Kyrgyz Grade 4 Mean Scores by School Group—Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



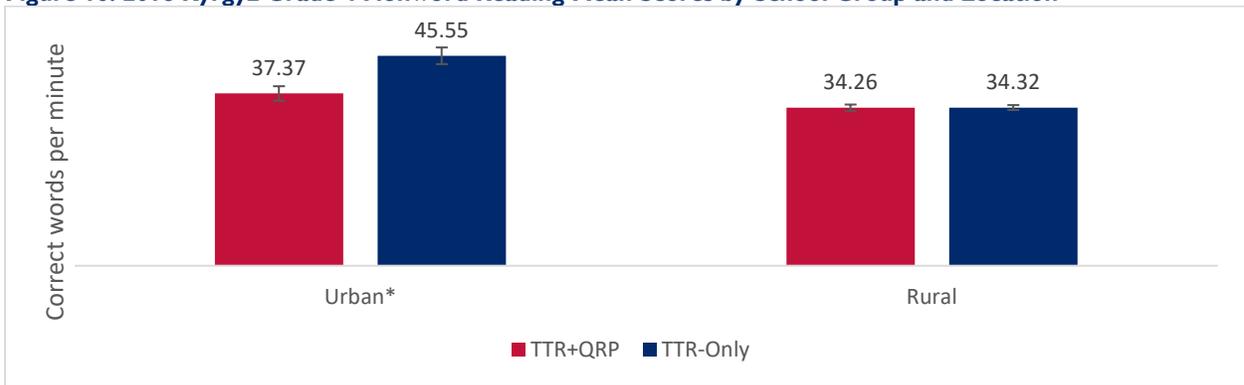
Subtasks marked with the letter “a” denotes differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$. Subtasks marked with the letter “b” denotes differences between the TTR-only group and the QRP+TTR group are statistically significant at $p < 0.05$.

Figure 15: 2018 Kyrgyz Grade 4 Mean Scores by School Group—Oral Vocabulary, Reading Comprehension, and Listening Comprehension



Subtasks marked with the letter “a” denotes differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$. Subtasks marked with the letter “b” denotes differences between the TTR-only group and the QRP+TTR group are statistically significant at $p < 0.05$.

Figure 16: 2018 Kyrgyz Grade 4 Nonword Reading Mean Scores by School Group and Location



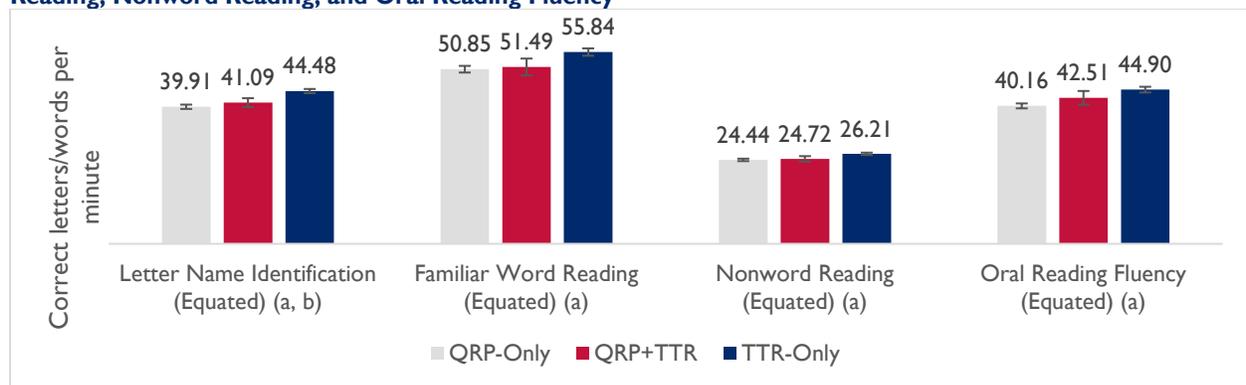
*Differences between TTR-only students and TTR+QRP students are statistically significant at $p < 0.05$.

RUSSIAN GRADE 2 RESULTS BY SCHOOL GROUP

Figure 17 and Figure 18 show 2018 results for Russian grade 2 students by school group and subtask. First, the performance between students in TTR-only was compared with students in QRP-only schools. The TTR-only group scored significantly higher than the QRP-only group on four subtasks: letter name identification, nonword reading, familiar word reading, and ORF. On the oral vocabulary and listening comprehension subtasks, however, the TTR-only group scored significantly lower than the QRP-only group. TTR-only and QRP-only students performed comparably on initial sound identification and reading comprehension.

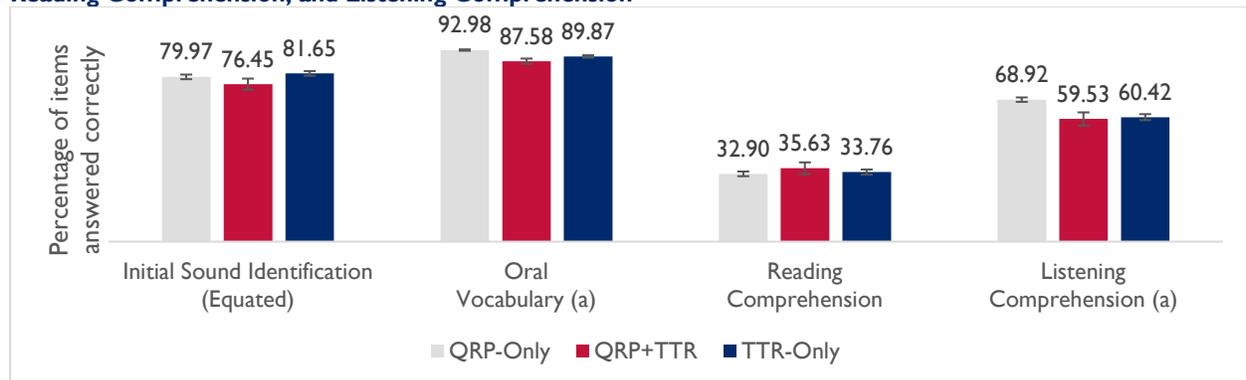
Second, the results were compared between students in TTR-only schools and TTR+QRP schools. Across seven of the eight subtasks, there were no statistically significant differences between students in the TTR-only group and students in the QRP+TTR group. The exception was the letter name identification subtask, on which students in the TTR-only group had significantly higher mean scores than students in the QRP+TTR group.

Figure 17: 2018 Russian Grade 2 Mean Scores by School Group—Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



Subtasks marked with the letter “a” denotes differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$. Subtasks marked with the letter “b” denotes differences between the TTR-only group and the QRP+TTR group are statistically significant at $p < 0.05$.

Figure 18: 2018 Russian Grade 2 Mean Scores by School Group—Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension



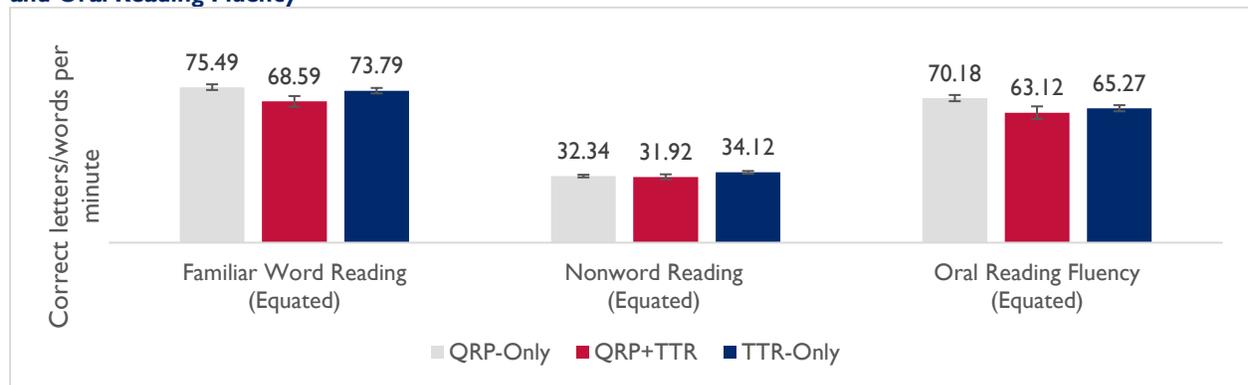
Subtasks marked with the letter “a” denotes differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$.

RUSSIAN GRADE 4 RESULTS BY SCHOOL GROUP

Figure 19 and Figure 20 show 2018 results for Russian grade 4 students by school group. First, the performance between students in TTR-only was compared with students in QRP-only schools. The TTR-only group scored significantly lower than the QRP-only group on the reading comprehension and listening comprehension subtasks. On the other four subtasks, students in the two groups performed comparably.

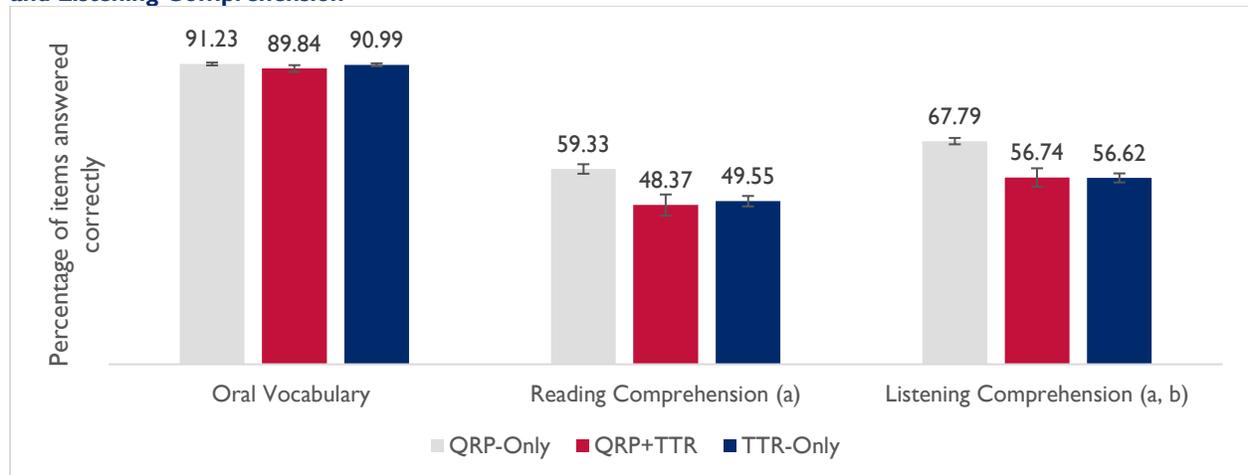
Second, results were compared between students in TTR-only schools and TTR+QRP schools. On all subtasks, students in both groups performed comparably.

Figure 19: 2018 Russian Grade 4 Mean Scores by School Group—Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



Note: Differences between TTR-only and either QRP-only or QRP+TTR are not statistically significant ($p < 0.05$) across any of the subtasks.

Figure 20: 2018 Russian Grade 4 Mean Scores by School Group—Oral Vocabulary, Reading Comprehension, and Listening Comprehension



Subtasks marked with the letter “a” denotes differences between the TTR-only group and the QRP-only group are statistically significant at $p < 0.05$. Subtasks marked with the letter “b” denotes differences between the TTR-only group and the QRP+TTR group are statistically significant at $p < 0.05$.

Part 6: Comparison of baseline and midline EGRA results by school group

This section presents findings from a difference-in-differences comparison of the baseline (2017) and midline (2018) results by school group.²² Table 19 below shows the percentage change in EGRA subtask scores from 2017 to 2018 by language, grade, and school group. Additional tables of mean score and difference-in-differences results between 2017 to 2018 by school group and gender appear in Annex I.

Table 19: Percentage Change in EGRA Subtask Score from 2017 to 2018 by Language, Grade, and School Group

EGRA Subtask	School Group	Kyrgyz Grade 2	Kyrgyz Grade 4	Russian Grade 2	Russian Grade 4
Letter name identification (Equated)	QRP-Only	-3.4%	n/a	-29.2%	n/a
	QRP+TTR	-0.2%	n/a	-27.1%	n/a
	TTR-Only	-4.4%	n/a	-15.1%	n/a
Initial sound identification (Equated)	QRP-Only	-7.3%	n/a	-14.6%	n/a
	QRP+TTR	-3.0%	n/a	-18.4%	n/a
	TTR-Only	-11.2%	n/a	-9.2%	n/a
Familiar word reading (equated)	QRP-Only	6.4%	-11.7%	-10.6%	-9.9%
	QRP+TTR	1.8%	-26.4%	-9.5%	-18.2%
	TTR-Only	-2.2%	-24.2%	17.7%	-1.9%
Nonword reading (equated)	QRP-Only	-0.1%	10.6%	-13.9%	-9.7%
	QRP+TTR	2.1%	-1.7%	-12.9%	-10.9%
	TTR-Only	-4.7%	7.5%	7.2%	7.7%
Oral vocabulary	QRP-Only	-1.3%	-1.7%	-0.2%	-3.1%
	QRP+TTR	1.7%	1.2%	-6.0%	-4.5%
	TTR-Only	-1.6%	-1.0%	2.6%	2.6%
Oral reading fluency (equated)	QRP-Only	4.5%	-3.8%	-13.4%	-13.6%
	QRP+TTR	0.5%	-10.0%	-8.3%	-22.3%
	TTR-Only	0.0%	-8.2%	19.3%	-7.8%
Reading comprehension	QRP-Only	-32.4%	8.8%	-30.5%	-6.5%
	QRP+TTR	-28.0%	29.1%	-24.8%	-23.8%
	TTR-Only	-26.3%	0.2%	-3.1%	-6.7%
Listening comprehension	QRP-Only	-10.7%	-15.7%	17.6%	-30.6%
	QRP+TTR	-3.6%	11.1%	1.6%	-41.9%
	TTR-Only	-2.5%	-8.0%	27.4%	-39.3%

Note: Pink and red coloring indicates a decrease in score from 2017 to 2018. Green coloring indicates an increase in score from 2017 to 2018.

²² The 2017 data comes from the QRP endline evaluation in which there were only two treatment arms: those schools benefiting from QRP (treatment) and those schools not benefiting from QRP (control). For this study, the 2017 treatment group data was treated as the baseline data for both the QRP-only group and the QRP+TTR group, hence the 2017 results for the QRP-only and QRP+TTR groups are identical across all the subtasks. The 2017 control group data was treated as the baseline data for the TTR-only group.

KYRGYZ GRADE 2 BASELINE TO MIDLINE COMPARISONS

Figure 21 presents the difference-in-difference scores for TTR-only students compared with students in the other two groups for Kyrgyz grade 2 students.

The difference scores from 2017 to 2018 for TTR-only and QRP-only were comparable on six of eight subtasks. The only subtasks on which difference-in-differences were statistically significant between the two groups were the initial sound identification and listening comprehension. While both the TTR-only and QRP-only school groups experienced a decrease in mean scores on the initial sound identification subtask, the TTR-only group had significantly larger decrease between 2017 and 2018 than did the QRP-only group. By contrast, the QRP-only group had a significantly larger decrease between 2017 and 2018 on the listening comprehension subtask than did the TTR-only group.

The difference scores from 2017 to 2018 for TTR-only and QRP+TTR were comparable on five of the eight subtasks. However, the TTR-only group experienced significantly larger decreases than did the QRP+TTR group on the letter name identification, initial sound identification, and nonword reading subtasks.

KYRGYZ GRADE 4 BASELINE TO MIDLINE COMPARISONS

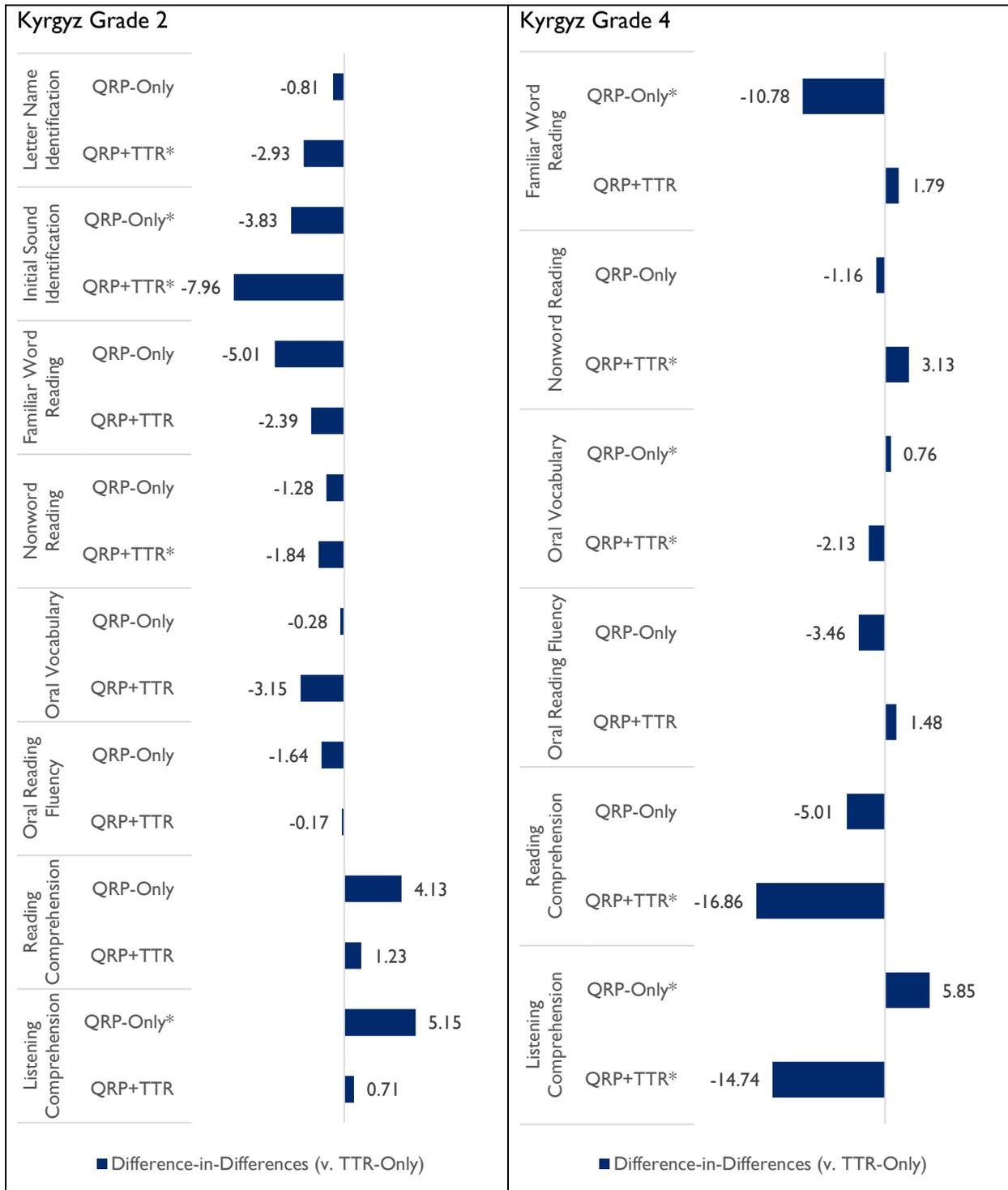
Figure 21 also presents the difference-in-difference scores for TTR-only students compared with students in the other two groups for Kyrgyz grade 4 students.

From 2017 to 2018, the difference scores for TTR-only students were significantly better than QRP-only students on the oral vocabulary and listening comprehension subtask but significantly poorer on the familiar word reading subtask. Across all other subtasks, difference scores were comparable.

QRP+TTR students had significantly better difference scores than TTR-only students on three subtasks: oral vocabulary, reading comprehension, and listening comprehension.²³ TTR-only students had better difference scores than the QRP+TTR group on the nonword reading subtask. Across the other subtasks, difference scores were comparable.

²³ On the oral vocabulary and listening comprehension subtasks, TTR-only scores decreased between 2017 and 2018 while QRP+TTR scores increased. On the reading comprehension subtask, TTR-only scores stayed approximately the same from 2017 to 2018, while QRP+TTR scores increased by 17 percentage points.

Figure 21: Difference-in-difference Scores for Kyrgyz Grade 2 and Grade 4—TTR-Only Compared with QRP-Only and QRP+TTR



*Difference-in-differences relative to the TTR-only group are statistically significant at $p < 0.05$.

RUSSIAN GRADE 2 BASELINE TO MIDLINE COMPARISONS

Figure 22 presents the difference-in-difference scores for TTR-only students compared with students in the other two groups for Russian grade 2 students.

On four of the eight subtasks, the TTR-only group experienced year-on-year changes that were significantly better than those in the QRP-only group. The TTR-only group also experienced significantly better year-on-year changes than the QRP+TTR group on six of the eight subtasks.²⁴

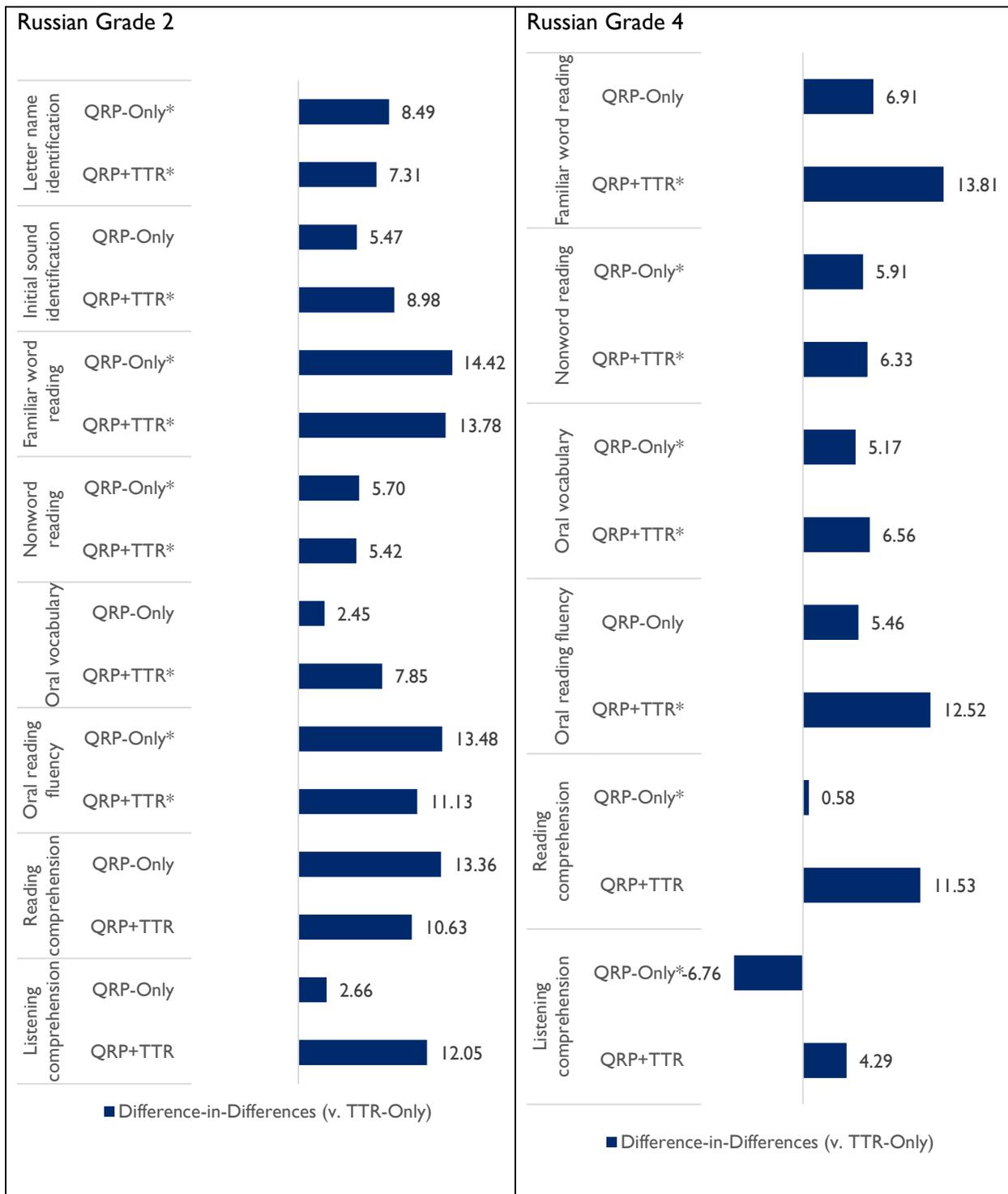
RUSSIAN GRADE 4 BASELINE TO MIDLINE COMPARISONS

Figure 22 also presents the difference-in-difference scores for TTR-only students compared with students in the other two groups for Russian grade 4 students.

Like Russian grade 2 results, the magnitude of the decrease was relatively smaller for students in the TTR-only group than the other two school groups. On three of the six subtasks, the TTR-only group experienced year-on-year changes that were significantly better than those in the QRP-only group. The TTR-only group also experienced significantly better year-on-year changes than the QRP+TTR group on four of the six subtasks. On the nonword reading subtask, the mean score for the TTR-only group increased from 2017 to 2018 while the mean scores from the QRP-only and TTR+QRP groups decreased.

²⁴ On the familiar word reading, nonword reading, oral vocabulary, and ORF subtask, the scores from the TTR-only group increased while the scores from the QRP-only and TTR+QRP groups decreased.

Figure 22: Difference-in-difference Scores for Russian Grade 2 and Grade 4—TTR-Only Compared with QRP-Only and QRP+TTR



*Difference-in-differences relative to the TTR-only group are statistically significant at $p < 0.05$.

Part 7: Achievement of grade-level reading benchmarks

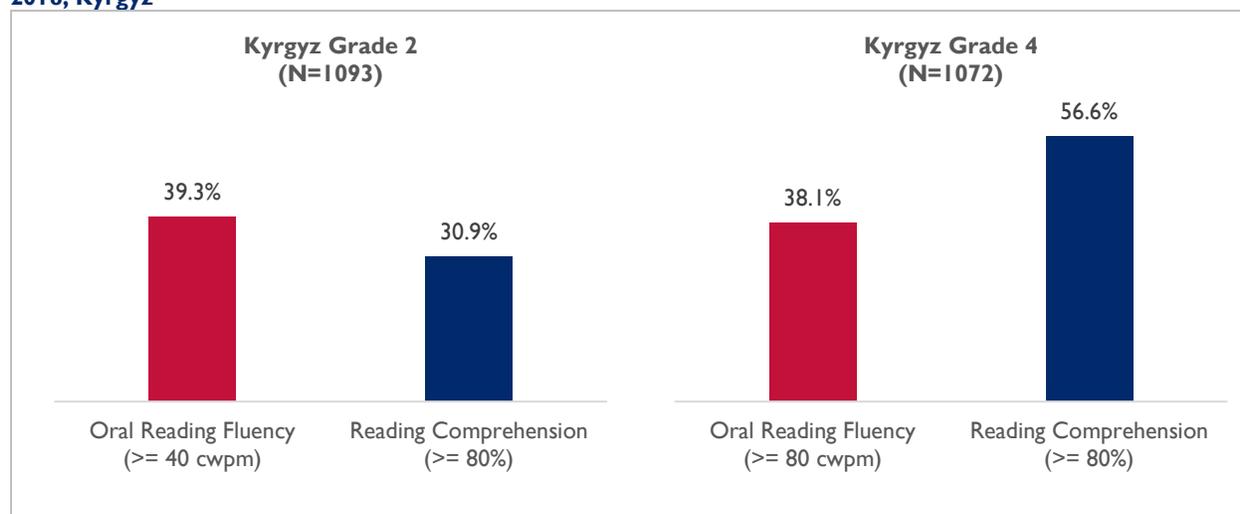
This section presents 2018 results in terms of the percentage of students attaining reading proficiency benchmarks for both grade levels. These results report on USAID’s *F-indicator*, that is the proportion of student in TTR schools who demonstrated that they could read and understand the meaning of the grade-level text.

The minimum acceptable standard on the ORF subtask was based on standards set by the MOES. The standard for reading proficiency is 40 correct words per minute for grade 2 students and 80 correct words per minute for grade 4 students; these standards are the same for both Kyrgyz- and Russian-medium schools.²⁵ The minimum acceptable standard for reading comprehension is 80 percent—four out of five questions—a standard that is globally used most often in association with the EGRA reading comprehension subtask.²⁶

Figure 23 and Figure 24 show the percentage of students from the TTR-only and TTR-QRP groups, combined, who achieved the reading proficiency benchmarks by language and grade in 2018. In Kyrgyz, more than half of students in grade 4 met the benchmark for reading comprehension while almost one-third did in grade 2. In Russian, less than 15 percent of grade 2 students met the reading comprehension benchmark compared with one-third of grade 4 students.

Interpretation of these comprehension findings should be made with caution. The EGRA reading comprehension subtask is only five questions, which presents notable difficulty in developing consistent and reliable measures that can be compared within grades in a given language, let alone across grades or languages. See Annex E for further information.

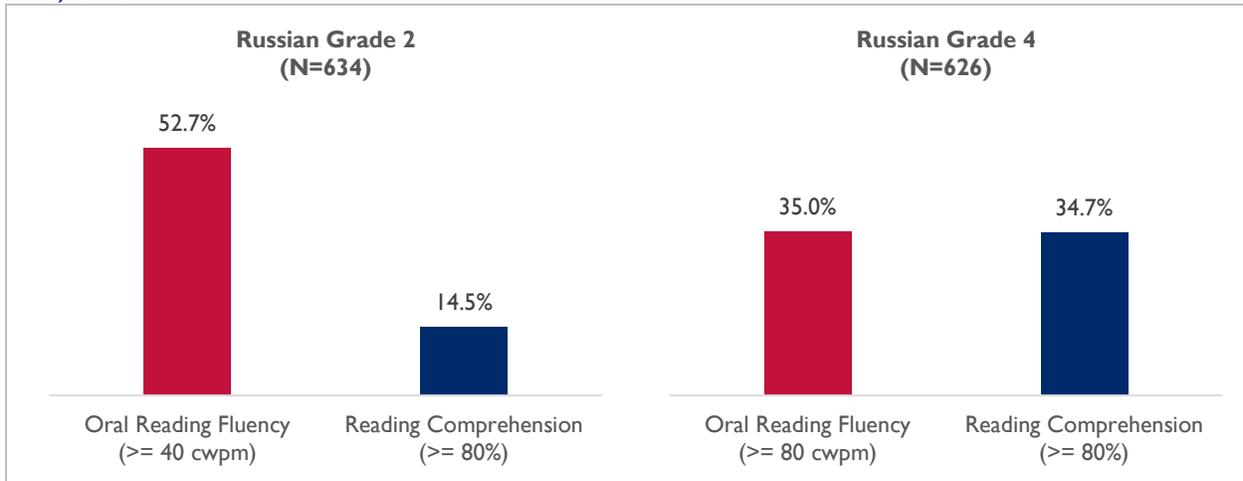
Figure 23: Percentage of TTR Intervention Students Reaching Reading Proficiency Benchmarks by Grade in 2018, Kyrgyz



²⁵ *The Mother Tongue Subject Standards*, developed by the MOES under the Fast Track Initiative, as cited in American Institutes for Research. *USAID Quality Reading Project Kyrgyz Republic: Final EGRA and Impact Report 2013–2017*. (Washington, DC: United States Agency for International Development, 2017), p. 30.

²⁶ RTI International. *Early Grade Reading Assessment (EGRA) Toolkit, Second Edition*. (Washington, DC: United States Agency for International Development, 2015). p. 110.

Figure 24: Percentage of TTR Intervention Students Reaching Reading Proficiency Benchmarks by Grade in 2018, Russian



Benchmarking results disaggregated by gender, location, oblast, and treatment group can be found in Annex I.

CONTEXTUALIZING EGRA RESULTS

This section provides contextual information exploring the relationship between students’ reading skills and home and school factors. To understand these relationships, data were analyzed from a student questionnaire and SSME surveys that were administered during the EGRA. The SSME surveys consisted of a teacher questionnaire, a head teacher questionnaire, a school inventory checklist, and a classroom inventory checklist.

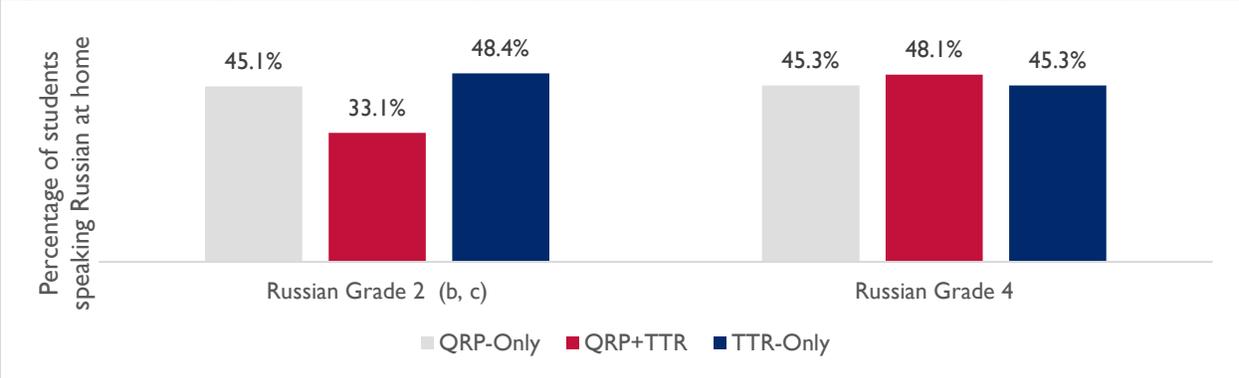
Student questionnaire results

Students completing the EGRA were asked a set of questions about their background, learning experiences in school and at home, and the conditions of their home environment. The following sections summarize findings from the 2018 survey. See Annex J for complete tables of all items by grade, language, and school group.

LANGUAGE SPOKEN AT HOME

Students were asked what language they spoke at home. In the Kyrgyz-medium sample schools, 93.4 percent of students spoke Kyrgyz at home. In the Russian-medium sample schools, however, 50.3 percent of students spoke Kyrgyz at home while 45.4 percent spoke Russian. Of note, the percentage of grade 2 students speaking Russian at home was significantly higher in the TTR-only and QRP-only groups than it was in the QRP+TTR group (Figure 25). Differences between treatment groups in grade 4 were not statistically significant.

Figure 25: Percentage of Students Speaking Russian at Home in Russian Sample Schools by School Group



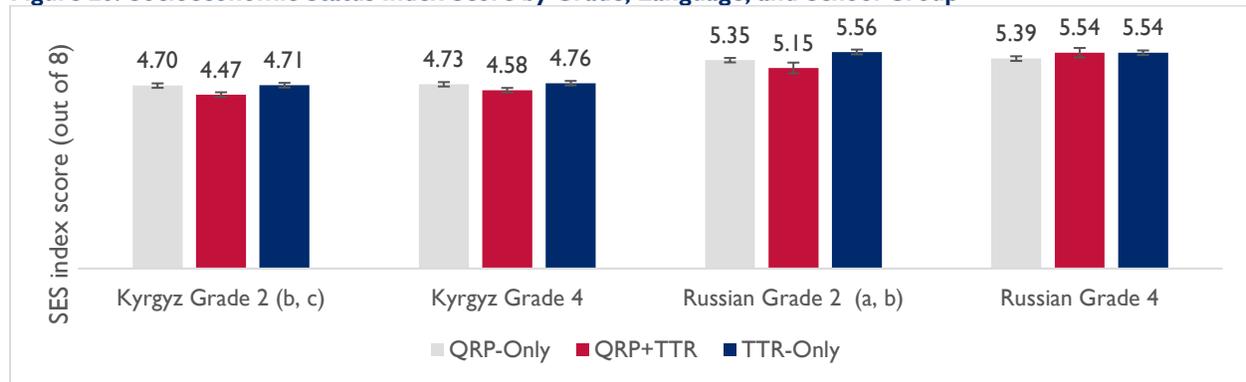
^a Differences between TTR-only schools and QRP+TTR schools are statistically significant at $p < 0.05$.
^b Differences between TTR+QRP schools and QRP-only schools are statistically significant at $p < 0.05$.

SOCIOECONOMIC STATUS

Students’ socioeconomic status (SES) was computed as an index, or a composite score, from items that asked about the availability of electricity, a toilet, a kitchen, a radio, a television, a bike, a motorbike, and a computer at the student’s home. The index also included an item related to the students’ access to food before coming to school. The presence of more of these items indicated a higher level of SES; therefore, the index was computed as the sum of “yes” responses provided by the student. The maximum possible score was eight.

SES index results varied by school group across grade and language (Figure 26). Among Kyrgyz grade 2 students, the TTR+QRP group had significantly lower SES index scores than the TTR-only and QRP-only groups. Among Russian grade 2 students, the TTR-only group had significantly higher SES index scores than did the QRP-only and QRP+TTR groups. There were no statistically significant differences by group between Kyrgyz grade 4 or Russian grade 4 students. SES index scores tended to be higher among students from Russian sample schools than among students from Kyrgyz sample schools.

Figure 26: Socioeconomic Status Index Score by Grade, Language, and School Group



^a Differences between TTR-only schools and QRP-only schools are statistically significant at $p < 0.05$.

^b Differences between TTR-only schools and QRP+TTR schools are statistically significant at $p < 0.05$.

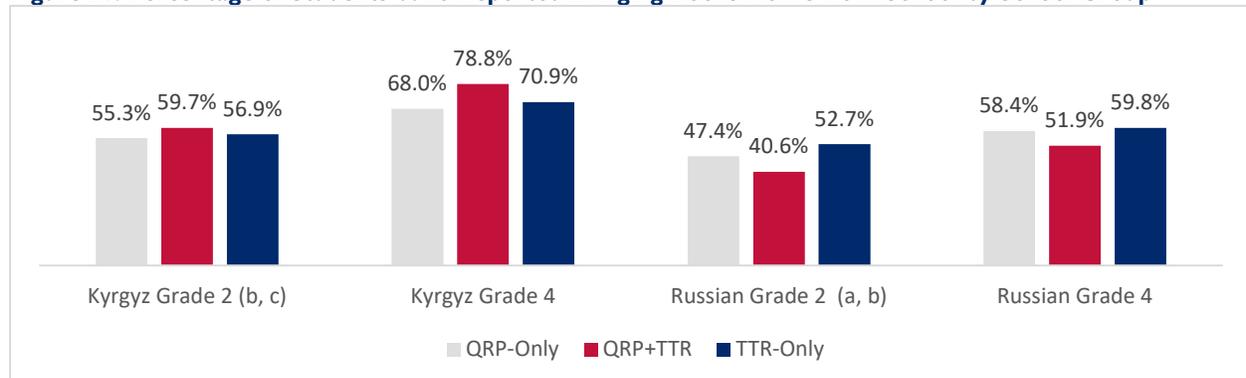
^c Differences between TTR+QRP schools and QRP-only schools are statistically significant at $p < 0.05$.

READING HABITS

Students were asked questions about their reading habits, including whether they bring books home from school to read and how often they read at home on their own.

The percentage of students who reported bringing books home varied by school group depending on the language and grade (Figure 27). For grade 4 students in Kyrgyz sample schools, the percentage of students who reported bringing books home was significantly higher in the QRP+TTR group than in either the QRP-only or TTR-only groups. For grade 2 students in Russian sample schools, the percentage of students who reported bringing books home was significantly higher in the QRP-only group than in the TTR-only and QRP+TTR groups. For Kyrgyz grade 2 students and Russian grade 4 students, differences between the school groups were not statistically significant.

Figure 27: Percentage of Students Who Reported Bringing Books Home from School by School Group



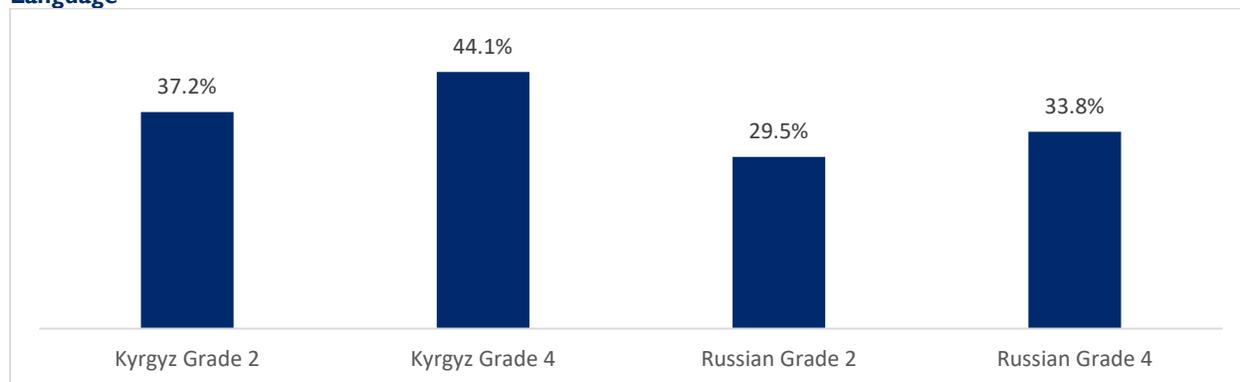
^a Differences between TTR-only schools and QRP-only schools are statistically significant at $p < 0.05$.

^b Differences between TTR-only schools and QRP+TTR schools are statistically significant at $p < 0.05$.

^c Differences between TTR+QRP schools and QRP-only schools are statistically significant at $p < 0.05$.

The percentage of students who reported reading at home on their own each day varied across grades and languages (Figure 28). In general, the percentage of students reading at home on their own daily was higher among grade 2 and grade 4 students from Kyrgyz sample schools (37.2 and 44.1 percent, respectively) than among grade 2 and grade 4 students from Russian sample schools (29.5 and 33.8 percent, respectively). Differences between school groups across grades and languages were not statistically significant.

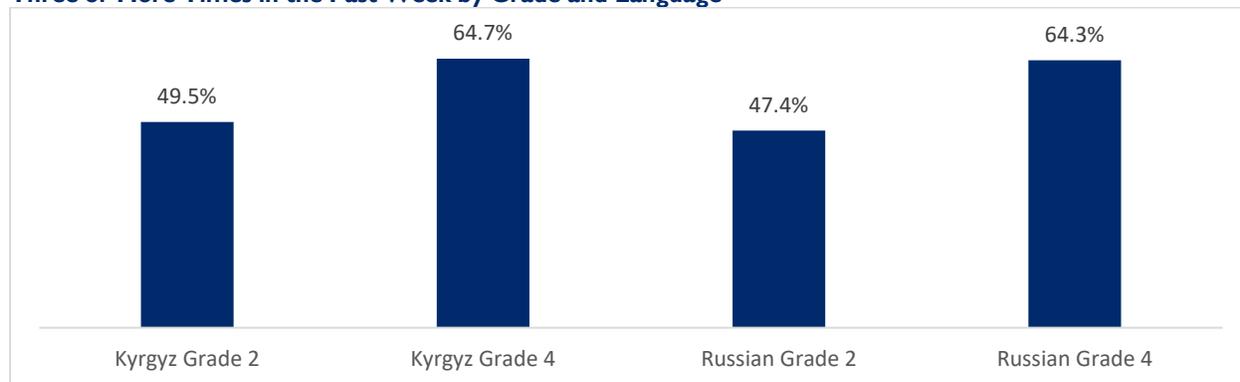
Figure 28: Percentage of Students Who Reported Reading at Home by Themselves Daily by Grade and Language



HOMEWORK ASSIGNMENTS

Students were asked how often their teacher had given them homework on reading in the past week. Overall, the percentage of students reporting that they received reading homework three or more times in the previous week was significantly higher for grade 4 students than for grade 2 students in both Kyrgyz and Russian sample schools. Differences between school groups within each grade and language were not statistically significant.

Figure 29: Percentage of Students Who Reported Receiving Homework on Reading from Their Teachers at Three or More Times in the Past Week by Grade and Language



Teacher and head teacher questionnaire

At each sample school, one grade 2 teacher and one grade 4 teacher were surveyed along with the head teacher or deputy director. In total, 331 teachers and 160 head teachers completed questionnaires in the Kyrgyz sample schools, and 248 teachers and 125 head teachers or deputy directors completed

questionnaires in the Russian sample schools. Full results for teacher and head teacher survey items appear in Annex K. The following sections summarize key findings from these questionnaires.

TEACHER BACKGROUND AND EXPERIENCE

In Kyrgyz sample schools, 98.2 percent of teachers and 81.3 percent of head teachers were female. Approximately 33 percent of head teachers had six or more years' experience in the head teacher role, and 61.2 percent had received some form of management training. Nearly 89 percent of teachers had been teaching for four years or more, 77.0 percent had some form of professional teaching qualification, and 79.4 percent of teachers reported having completed courses on reading instruction.

In Russian sample schools, 100.0 percent of teachers and 91.2 percent of head teachers were female. Additionally, 42.4 percent of head teachers had six or more years' experience in the head teacher role, and 64.0 percent had received some form of management training. Nearly 89 percent of teachers had been teaching for more than four years, 76.2 percent had some form of professional teaching qualification, and 82.3 percent of teachers reported having completed courses on reading instruction. Of note, only one-third of teachers interviewed indicated that Russian was their native language.

TEACHING CONDITIONS

In Kyrgyz sample schools, nearly 80 percent of teachers interviewed reported teaching only one shift per work day, and the average teaching load was just below 18 hours per week. The average class size for both grade 2 and 4 classes was 22.96 students. On average, the number of repeat students reported by teachers was less than one per class. Of note, 67.5 percent of head teachers reported that there were enough reading textbooks for all students in the primary grades at the beginning of the year. Also, 56.4 percent of teachers reported using their own money to purchase methodological materials for use in the classroom.

In Russian schools, 50.8 percent of teachers interviewed reported teaching two shifts per workday, and the average teaching load was 23 hours per week. The average class size reported by teachers was 29.12 students. On average, the number of repeat students reported by teachers was less than one per class. Only 46.4 percent of head teachers reported that there were enough reading textbooks for all students in the primary grades at the beginning of the year. Additionally, 44.8 percent of teachers reported using their own money to purchase methodological materials for use in the classroom.

TEACHER AND SCHOOL SUPPORT

In Kyrgyz sample schools, 76.9 percent of head teachers reported that they or a senior teacher at the school observe teachers' lessons at least once per week, and 97.5 percent reported that they or a senior teacher check teachers' lesson plans at least once a week. By comparison, less than 20 percent of teachers reported that the head teacher or a senior teacher at the school observed their lessons at least once per week, while 96.1 percent reported that the head teacher or a senior teacher checked their lesson plans at least once per week. One-third of teachers also reported that a representative from the MOES had visited their school at least once per quarter since the beginning of the school year.

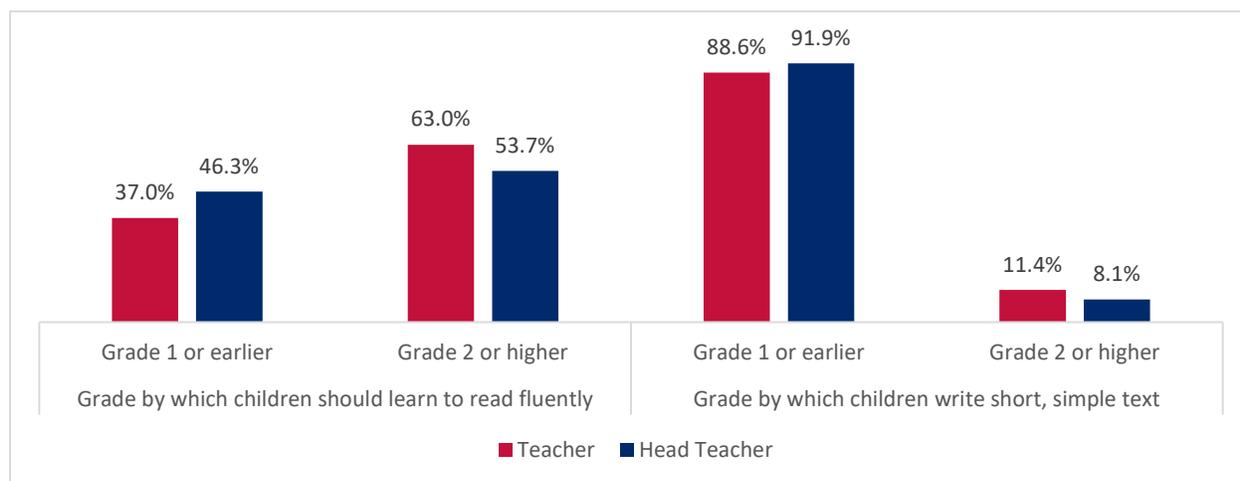
In Russian sample schools, 79.2 percent of head teachers reported that they or a senior teacher at the school observe teachers' lessons at least once per week, and 88.8 percent reported that they or a senior teacher check teachers' lesson plans at least once a week. By comparison, 27.0 percent of teachers reported that the head teacher or a senior teacher at the school observed their lessons at least once per week, and 89.5 percent reported that the head teacher or a senior teacher checked their lesson plans at least once per week. Nearly three-quarters of teachers also reported that a representative from the MOES had visited their school at least once per quarter since the beginning of the school year.

EXPECTATIONS OF STUDENTS' READING AND WRITING

Teachers and head teachers were asked to give their opinion on the grade by which students should learn to read fluently and write simple text.

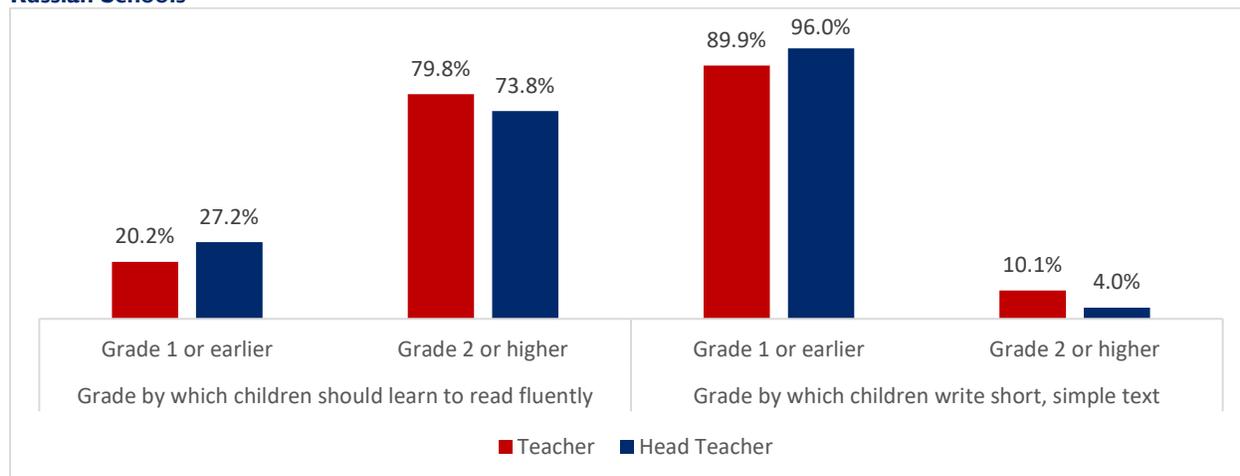
In Kyrgyz sample schools, 36.9 percent of teachers and 46.3 percent of head teachers believed that students should learn to read fluently by grade 1 (Figure 30). Expectations on writing acquisition were higher, as 95.8 percent of teachers and 96.2 percent of head teachers believed that students should learn to write by grade 1.

Figure 30: Teacher Expectations on the Grade Level for Students to Reading Fluently and Write Simple Text, Kyrgyz Schools



In Russian sample schools, 20.2 percent of teachers and 27.2 percent of head teachers believed that students should learn to read fluently by grade 1 (Figure 31). Expectations on writing acquisition were higher, as 91.9 percent of teachers and 96.0 percent of head teachers believed that students should learn to write as early as grade 1.

Figure 31: Teacher Expectations on the Grade Level for Students to Reading Fluently and Write Simple Text, Russian Schools



SCHOOL LIBRARY

In Kyrgyz sample schools, 95.6 percent of head teachers reported that their school had a library. Nearly three-quarters (72.5 percent) of head teachers at these schools reported that the books from the library are available for primary-grade students, and 89.5 percent reported that the library is open at least five days a week. Approximately one-third of head teachers who reported that their school had a library also reported that the librarian at their school had specialized training in library science.

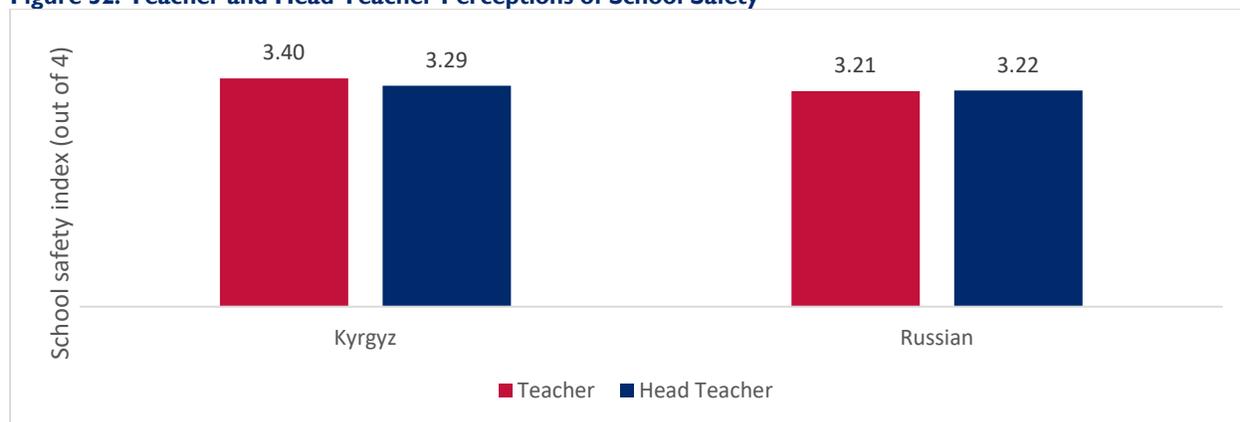
In Russian sample schools, 97.6 percent of head teachers reported that their school had a library. The overwhelming majority (89.3 percent) of head teachers at these schools reported that the books from the library are available for primary-grade students, and 87.7 percent reported that the library is open at least five days a week. More than one-third (39.3 percent) of head teachers who reported that their school had a library also reported that the librarian at their school had specialized training in library science.

SCHOOL SAFETY

Teachers and head teachers were asked several questions related to the safety of the school environment, including whether there were threats to student safety at the school or on the way to school, whether students were safe when they were in school, and whether the teachers, themselves, felt safe at the school. “Yes” responses to these survey items were reverse coded and combined to form a four-point index. Higher index scores indicate more positive perceptions of school safety.

As shown in Figure 32, teacher and head teacher perceptions of safety were comparable and relatively high for teachers and head teachers across both Kyrgyz and Russian sample schools. These results suggest that, on average, teachers and head teachers perceived their respective school environments as relatively safe.

Figure 32: Teacher and Head Teacher Perceptions of School Safety



School and classroom inventory

Information about school conditions and available resources were collected through school and classroom inventories. School inventory data were collected at each school where the EGRA was administered, and classroom inventory data were collected from one grade 2 classroom and one grade 4 classroom at each school. Full results for the school and classroom inventory appear in Annex K.

SCHOOL ENVIRONMENT

Data from the school inventory was used to compute two indexes, or composites, related to the overall school environment:

1. The **school condition index** reflects the needed physical repairs to windows, the roof, ceilings, classroom and external walls, the sporting grounds, the heating system, and furniture. The maximum possible score for this index is eight, and higher scores indicate more positive infrastructure conditions and fewer repair needs.
2. The **school resources index** reflects whether a school had clean grounds, a source of electricity, a source of drinking water, toilets that can be used year round, wash basins, access to a working phone, a library, a stadium, a gymnasium, a medical room, a cafeteria, an assembly hall, an announcements board, and a security guard. The maximum possible score for this index is 14, and higher scores indicate the availability of more resources at the school.

On average, Kyrgyz sample schools scored 5.93 on the school condition index and 8.94 on the school resources index. Russian sample scored 5.75 on the school condition index and 10.01 on the school resources index. These results suggest that both Kyrgyz and Russian sample schools were in relatively good physical condition and reasonably well resourced. Of note, the school inventory items that were least present at schools that included existence of a medical room (17.2 percent of Kyrgyz schools and 37.3 percent of Russian schools), a security guard (24.5 percent of Kyrgyz schools and 54.0 percent of Russian schools), an assembly hall (44.2 percent of Kyrgyz schools and 69.0 percent of Russian schools), and a gymnasium (54.6 percent of Kyrgyz schools but 80.2 percent of Russian schools).

As part of the school inventory, additional data were collected on latrines. On average, Kyrgyz sample schools had approximately six functioning latrines, while Russian sample schools had approximately eight. In both sets of schools, roughly half of the functioning latrines were intended only for girls. Latrines were considered clean at only 36.2 percent of Kyrgyz sample schools and 20.6 percent of Russian sample schools.

Data were also collected on the approximate number of books in the library for primary-grade students. Nearly one-half (46.0 percent) of Kyrgyz sample schools had more than 100 books, while 50.8 percent of Russian sample schools had more than 100 books.

CLASSROOM ENVIRONMENT

Data from the classroom inventory was used to compute three indices related to the classroom environment:

1. The **student resources index** reflects whether at least 90 percent of students present in the classroom on the day of the visit possessed a reading textbook, a reading copybook, and a pen or pencil. The maximum possible score for this index is three, and higher scores indicate that students are better prepared in terms of resources for reading lessons at the school.
2. The **teacher resources index** reflects whether the teacher in the classroom had access to a blackboard or whiteboard, chalk or markers, an interactive board, pens or pencils, a notebook to write in, methodological guidance on teaching reading, and a lesson plan or lesson summary. The maximum possible score for this index is seven, and higher scores indicate that teachers are better resourced for delivering reading instruction to students at the school.
3. The **classroom conditions and learning resources index** reflects whether the classroom visited had at least 10 books or magazines apart from study books, didactic materials or visual aids on the walls, students' work displayed, desks and chairs for all students, desks and chairs that are age appropriate in terms of size and free from repair, and sufficient lighting for the teacher and students to clearly see the board and visual aids. The maximum possible score for

this index is seven, and higher scores indicate more positive classroom conditions and learning resources at the school.

On average, Kyrgyz sample schools scored 2.60 on the student resources index, 5.62 on the teacher resources index, and 5.52 on the classroom conditions and learning resources index. Russian schools had similar but slightly lower results: 2.50 on the student resources index, 5.17 on the teacher resources index, and 5.28 on the classroom conditions and learning resources index. Overall, these results suggest that classrooms in both sets of sample schools had students and teachers who were reasonably well resourced and positive classroom conditions that supported teaching and learning. Of note, the classroom inventory items that were least present in schools included the existence of an interactive board (2.6 percent of Kyrgyz classrooms and 4.8 percent of Russian classrooms), books and magazines for students (44.6 percent of Kyrgyz classrooms and 29.8 percent of Russian classrooms did not have any books or magazines in the classroom), and display of students' work (67.1 percent of Kyrgyz classrooms and 53.6 percent of Russian classrooms).

As part of the classroom inventory, data were also collected on class enrollment. On average, Kyrgyz classrooms had 21 students enrolled while Russian classrooms had 26 students enrolled.

Predictors of reading outcomes

STUDENT BACKGROUND FACTORS

Those student survey items for which there was some variance were analyzed further to determine their relationship to student reading outcomes. Table 20 shows the correlations between the student survey items with variance and ORF by grade and language.²⁷ Overall, correlations between the select student survey items and ORF were weak. However, many of the correlations were statistically significant.

Table 20: Correlations between Student Survey Items with Variance and Oral Reading Fluency by Grade and Language

Correlation with Oral Reading Fluency	Kyrgyz Grade 2	Kyrgyz Grade 4	Russian Grade 2	Russian Grade 4
Socioeconomic status index	0.06*	0.06*	0.18**	0.17**
Russian spoken at home	---	---	0.16**	0.17**
Bringing books home from school	0.13**	0.07**	0.00	0.05
Reading at home on one's own	0.13**	0.10**	0.07*	0.12**
Homework on reading three or more times in last week	0.07**	0.11**	0.06*	0.11**

Legend of statistical significance: one asterisk (*) indicates $p < 0.05$; two asterisks (**) indicates $p < 0.01$

For each grade and language, a linear regression model was developed that included ORF as the outcome or dependent variable, and the student survey items with statistically significant correlations to ORF as the predictor or independent variables. Also included in the linear regression model as predictor variables were gender and school location—urban or rural. A full table of results for the regression modeling—including statistical significance levels, values, and t-statistics—can be found in Annex K.

²⁷ The ORF subtask was used as the outcome variable because of its moderate to strong correlations with the familiar word reading, nonword reading, and reading comprehension subtasks (Annex E). It therefore serves as a suitable proxy for reading skills.

For Kyrgyz grade 2 students, reading at home, bringing books home from school daily, and receiving homework on reading all had statistically significant positive associations with reading outcomes. Controlling for other factors, reading on one's own at was associated with a four-word-per-minute increase on ORF. Bringing books home from school daily was also associated with a four-word-per-minute increase. Receiving homework on reading was associated with a two-word-per-minute increase.

For Kyrgyz grade 4 students, reading at home, bringing books home from school daily, receiving homework, and SES all had statistically significant positive associations with reading outcomes. Controlling for other factors, receiving homework on reading homework three or more times per week was as associated with a six-word-per-minute increase in ORF. Reading at home on one's own was associated with a four-word-per-minute increase. Bringing books home from school daily was associated with a two-word-per-minute increase. Finally, a one-point increase in the SES-index score was associated with a one-word-per-minute increase in ORF.

For Russian grade 2 students, speaking mostly Russian at home, receiving homework on reading, and SES all had statistically significant positive associations with reading outcomes. Controlling for other factors, speaking mostly Russian at home was associated with a five-word-per-minute increase in ORF. Receiving homework on reading three or more times per week was associated with a two-word-per-minute increase in ORF. A one-point increase in the SES-index score was associated with a two-word-per-minute increase in ORF.

For Russian grade 4 students, speaking mostly Russian at home, receiving homework on reading, reading at home, and SES-index score all had statistically significant positive associations with reading outcomes. Controlling for other factors, speaking mostly Russian at home was associated with an eight-word-per-minute increase in ORF. Receiving homework on reading three or more times per week and reading at home on one's own were each associated with a five-word-per-minute increase in ORF. A one-point increase in the SES-index score was associated with a four-word-per-minute increase in ORF.

SCHOOL BACKGROUND FACTORS

Teacher questionnaire, head teacher questionnaire, school inventory, and classroom inventory items for which there was some variance were analyzed further to determine their relationship to student reading outcomes.

Annex K provides the Pearson bi-variate correlations between the questionnaire and inventory items with variance and school-level ORF results by grade and language. Overall, most correlations between the questionnaire and inventory items and ORF were weak, although some were statistically significant. In Kyrgyz sample schools, the items that had statistically significant correlations with reading performance differed by grade. However, in Russian sample schools, many of the items that had statistically significant correlations with reading performance for grade 2 had similar correlations for grade 4.

A linear regression model was developed for each grade and language that included school-level ORF as the outcome variable, and the survey and inventory items with statistically significant correlations to ORF as the predictor variables. Also included in the linear regression model as a predictor variable was school location. A full table of results for the regression modeling—including statistical significance levels, values, and t-statistics—appears in Annex K.

For Kyrgyz grade 2, three items had statistically significant positive associations with school-level reading outcomes: the head teacher's expectations for students' writing-skill development, the classroom teacher's expectations for students' reading skill development, and the frequency at which librarians

deliver reading activities. Whether the head teacher expected students to write simple text by grade 1 was associated with a seven-word-per-minute increase in ORF at the school level. Whether the classroom teacher expected students to read fluently by grade 1 was associated with a three-word-minute increase in ORF at the school level. Whether the head teacher reported that the school librarian delivered reading activities at least monthly was also associated with a three-word-per-minute increase in ORF at the school level.

For Kyrgyz grade 4, two items had statistically significant positive associations with school-level reading outcomes: the head teacher's expectation for students' writing skills development and the teacher's perception of school safety. Whether the head teacher expected students to write simple text by grade 1 was associated with a 10-word-per-minute increase in ORF at the school level. A one-point increase in the teacher perception of school-safety index was associated with a five-point increase in ORF at the school level.

For Russian grade 2, linear regression modeling revealed that none of the questionnaire or inventory items had statistically significant associations with ORF at the school level.

For Russian grade 4, three items had statistically significant positive correlations with ORF at the school level: the classroom teachers' home language, the school librarian's training in library science, and the availability of student resources. Whether the classroom teacher identified Russian as her native language was associated with a 10-word-per-minute increase in ORF at the school level. Whether the head teacher reported that the school librarian had specialized training in library science was associated with a nine-word-per-minute increase in ORF at the school level. A one-point increase in the student-resources index was associated with an eight-word-per-minute increase in ORF at the school level.

SUMMARY OF FINDINGS AND DISCUSSION

Summary of findings

The EGRAs administered across two grades and two languages, along with data from a previous study and both student and school-level background data, provide a snapshot of reading outcomes over time and trends in reading performance among different groups of schools and students receiving the TTR intervention. Several key findings emerge from the EGRA results.

NATIONAL-LEVEL RESULTS SNAPSHOT

- **The 2018 EGRA results for students studying in Kyrgyz or in Russian show strong reading outcomes.** ORF mean scores for students in grade 2 in both languages approached or exceeded the established grade-level benchmark of 40 correct words per minute. The mean scores for Kyrgyz-medium grade 4 students and Russian-medium grade 4 students were, on average, 72.33 and 65.30 correct words per minute, respectively. Moreover, the percentage of students who were nonreaders across most EGRA subtasks was extremely low, indicating that nearly all students have some ability to read.
- For Kyrgyz-medium students, the 2018 EGRA results varied relative to previous years' results depending on the EGRA subtask and the years being compared. For grade 2 students, 2018 results were similar to or higher than previous years' results on equated subtasks like the familiar word reading and ORF but lower on subtasks like the reading comprehension and listening comprehension. For grade 4 students, 2018 results were generally lower than 2015–16 and 2017 results but comparable to or higher than 2014 results.
- **For Russian-medium students, 2018 EGRA results were generally lower across subtasks than previous years.** The 2018 results were consistently lower than those from 2015–16 and 2017 across both grade 2 and 4. While the 2018 results were comparable to or higher than 2014 results on some subtasks, the 2018 results were lower than 2014 results on the majority of subtasks across both grades.

2018 SUBGROUP RESULTS—GENDER, LOCATION, AND OBLAST

- **Girls generally outperformed boys.** This was true across both grades and languages for most subtasks, particularly for high-order reading skills like those measured by the familiar word reading, nonword reading, and ORF subtasks.
- **Students from urban areas generally outperformed students from rural areas.** This was true across both grades and languages. However, in the grade 2 and grade 4 Russian-medium sample, the gap between urban and rural was often present in two groups—QRP-only and QRP+TTR schools—but not in TTR-only schools.
- Students from schools located in Chui, Issyk-Kul, Naryn, and Talas generally outperformed students from Jalal-Abad, Batken, and Osh. This was true across both grades and languages. When Bishkek and Osh City results were considered separately from other schools in their respective oblasts, mean scores from Bishkek typically were near the top, while mean scores from Osh City typically were in the middle or near the bottom.

2018 SCHOOL GROUP RESULTS

- **For Kyrgyz-medium students, 2018 EGRA results varied by grade and school group.** For grade 2, students from the TTR-only group had comparable mean scores as students from the other two groups across most subtasks. For grade 4 students, the TTR-only group scored lower than the QRP-only group on the familiar word reading subtask but higher than the QRP+TTR group on the familiar word reading and nonword reading subtasks.
- **For Russian-medium students, 2018 EGRA results varied by grade and school group.** For grade 2 students, the TTR-only group scored higher than the QRP-only group on the familiar word reading, nonword reading, and ORF subtasks, while results between the TTR-only group and the QRP+TTR group were comparable. For grade 4 students, the QRP-only group had similar results as the other two groups across most subtasks.
- **Across grades, languages, and school groups, results generally declined from 2017 to 2018.** For Kyrgyz-medium students, the trends in performance between the TTR-only and QRP-only groups were comparable for grade 2 and varied by subtask for grade 4. The TTR-only group generally did not perform as well from 2017 to 2018 as did the QRP+TTR group, regardless of their grade. For Russian-medium students, trends in performance were generally better among the TTR-only group than the other two school groups for both grade 2 and grade 4.

STUDENT AND SCHOOL BACKGROUND FACTORS

- **At the student level, several factors had positive associations with reading outcomes,** including reading at home, bringing books home from school, receiving reading homework from the teacher, socioeconomic status, and, for students in Russian schools, home language.
- **At the school level, several factors had positive associations with reading outcomes,** including teacher and head teacher expectations for students' reading and writing skill acquisition; frequency of library activities and librarian experience; teachers' perceptions of school safety; the availability of student resources, including textbook, copybook, or pencil; and, for Russian-medium schools, the classroom teachers' home language.

Discussion

Overall, the results from both Kyrgyz- and Russian-medium schools in the Kyrgyz Republic show that students have the high level of automaticity needed to read or decode words in a text. Mean scores for both languages hovered close to the national grade-level fluency benchmarks of 40 and 80 words per minute for grades 2 and 4, respectively, and very few students received zero scores across any of the EGRA subtasks. However, one skill area in which students continue to lag is the ability to comprehend the text they have read. For example, the national mean score for the ORF subtask among grade 4 Kyrgyz-medium students was 72.33 words per minute, yet students answered only 63.81 percent of the five comprehension questions correctly. Grade 2 students in Russian-medium schools averaged 43.91 words read per minute on the ORF subtask, a mark that was above the national benchmark; yet, they could only answer 34.11 percent of the comprehension questions correctly.

Examination of national EGRA results over time shows that trends differ by LOI. Kyrgyz-medium results show uneven trends by grade across the different EGRA subtasks. In Russian-medium schools, grade 2 and grade 4 results from 2018 are below or comparable to previous years across most subtasks. While the 2018 national results show some static or even downward trends over time, especially in the Russian-medium schools, this might be due in part to the expanded group of schools included in the 2018 national "snapshot" that were not included prior years. These were primarily TTR-only schools.

Girls continue to outperform boys in reading in the Kyrgyz Republic, as the EGRA results from 2018 showed that girls scored higher than boys did on most subtasks across both grades and languages. These results for girls and boys are consistent with previous EGRAs conducted in the Kyrgyz Republic.

Where a student lives in the Kyrgyz Republic had a relationship with his or her reading performance: results across the different subtasks differed by location and oblast. Students from urban areas outperformed their rural peers on nearly all subtasks across grades and languages. Of note, the urban-rural gap in EGRA performance was not as evident among students from the TTR-only group as it was among students from the other two groups. This may be due to how schools were selected for the QRP and TTR interventions; schools in the TTR-only group are those schools that did not participate in QRP. These schools may have been excluded from QRP based on characteristics that have resulted in a smaller gap between urban and rural students in terms of EGRA performance. Differences by oblast also emerged, as students from Chui, Issyk-Kul, Naryn, and Talas generally outperformed students from Jalal-Abad, Batken, and Osh. This trend by oblast suggests that there may be regional differences that are contributing to variances in EGRA performance.

As described in the limitations section above, differences between school group performance may not necessarily be attributed to TTR. The project's scope included reaching all eligible schools not served by QRP. TTR could not randomly assign schools to treatment conditions, which ruled out an experimental design or a randomized control trial. As a population of similar comparison schools without USAID support does not exist in the country, counterfactual evidence available for this study is limited. Additionally, TTR training had only reached the schools for three months at most at the time of midline data collection, limiting students' exposure to the program. While this report reveals some differences in student performance across the three school groups, it does not attribute differences to project impact.

Keeping these limitations in mind, the performance of the TTR-only group relative to the other two groups varied by subtask across both languages and grades. Kyrgyz-medium students from TTR-only schools had comparable results to the other two groups across most subtasks; this was true across both grades. Russian-medium grade 2 students from the TTR-only group outperformed students from the QRP-only group on the timed fluency subtasks, while results between the TTR-only and QRP+TTR groups were comparable. Russian-medium grade 4 students in the TTR-only group had comparable results to students in the other two groups.

Recommendations

This report offers recommendations based on a data-driven analysis of student reading outcomes in the Kyrgyz Republic. These recommendations derive from national-level grade and language results, as well as disaggregated results by gender, oblast, and school location. Given the limited exposure to TTR that students had at the time of data collection, these recommendations offer a near-baseline opportunity for the project to take stock of reading outcomes in schools served by TTR and to plan intervention accordingly.

These data show that while the EGRA results are generally high on the timed reading subtasks, targeted reading interventions are needed to help improve reading comprehension for students across both languages and grades. Students need greater support to learn how to comprehend text. The TTR intervention should focus on developing teachers' understanding of how to build students' explicit

reading comprehension skills through strategies that focus on vocabulary, listening comprehension, and overall exposure to a variety of types of narrative.

Also, the differences in results by gender and location reveal disparities that require attention if the gap in reading outcomes among certain subgroups of students is to be narrowed. Teacher training should include sensitization to the difference in reading outcomes between boys and girls and provide strategies to narrow this gender-based performance gap. Extra support to teachers and schools in rural areas—especially in Jalal-Abad, Batken, and Osh—would be helpful to ensure these students do not continue to underperform when compared with their peers in urban areas.

Finally, the student survey and SSME data serve as a reminder that fostering a culture of reading among students is important for reading skill development. At the student level, reading at home, bringing books home from school, and receiving reading homework from the teacher all had positive associations with reading performance. To the extent possible, work should be done with schools on how to further encourage reading not only in school but also in the home.

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ANNEXES

Annex A: EGRA adaptation and piloting

The TTR midline EGRA builds on previous USAID-funded early grade reading research in the Kyrgyz Republic. After defining the goals of the study, TTR reviewed existing tools and made revisions as needed. The revised tools were piloted and finalized in the Kyrgyz Republic prior to midline data collection in April 2018.

TTR conducted an EGRA adaptation workshop from November 27 to December 1, 2017, with an assessment TWG comprised of local education officials and stakeholders. The workshop adapted updated EGRA tools for both languages and grades based on the existing EGRA tools used in the QRP endline assessment in 2017. The EGRA adaptation workshop revised these tools to fulfill two purposes in making the tools:

1. compliant with the latest guidance regarding the assessment²⁸
2. equivalent, to the largest extent possible, to the endline tools used by QRP in spring 2017

EGRA is an individually administered, oral assessment that requires approximately 20 minutes per student. The test is administered to one student at a time by a trained enumerator (not teachers) in a location outside of the classroom. The enumerator begins by explaining the assessment to the student and asking if the student agrees to participate. Consent is always optional and no student is required to take the assessment. The enumerator creates a relaxed environment for the student and assures the student that the assessment is not used for a grade. The enumerator then begins by asking the student questions aloud and having the student respond aloud. For specific subtasks, the enumerator places a paper stimulus in front of the student containing letters or words, and the enumerator asks the student specific questions about the stimuli.

²⁸ Guidance for this EGRA includes both the EGRA Toolkit, 2nd Edition, as well as a 2016 external quality assurance evaluation of the QRP midline tools. See RTI International. 2015. Early Grade Reading Assessment (EGRA) Toolkit, Second Edition. Washington, DC: United States Agency for International Development, and RTI International. 2016. Evaluation of the Quality Reading Project's Research Process at Midterm. Washington, DC: United States Agency for International Development. https://globalreadingnetwork.net/sites/default/files/eddata/RI-021_RTI%20Review%20of%20QRP%20Evaluation%20at%20Midterm_.pdf

Table 21: EGRA Subtasks and Skills

Subtask	Core Reading Skill	Untimed/ Timed	Skill Demonstrated by Students' Ability To:	Description of TTR EGRA:
1. Letter name identification	Alphabet Knowledge	Timed (1 Minute)	Provide the name of letters presented in a random order	On this timed subtask, students were presented with 100 letters and asked to read the names in one minute.
2. Initial sound identification	Phonological Awareness	Untimed	Identify the initial sounds, or phonemes, of words	On this untimed subtask, students were asked to orally identify a phoneme (the smallest unit of sound in a word) at the beginning of 10 familiar words after the enumerator read the words aloud.
3. Familiar word reading	Word recognition and decoding	Timed (1 Minute)	Read aloud familiar, grade-appropriate words	On this timed subtask, students were presented with 50 familiar words and asked to read as many of the words as possible in one minute.
3. Nonword Reading	Decoding	Timed (1 Minute)	Make letter-sound correspondences (grapheme -phoneme correspondences) through the reading of simple nonwords	On this timed subtask, students were presented with 50 nonwords (words invented for this exercise) and asked to read as many of the words as possible in one minute.
4. Oral vocabulary	Receptive oral vocabulary	Untimed	Recognize objects spoken aloud by the enumerator	Identify 10 objects from a set of pictures after listening to a list of nouns read by the enumerator
5a. Oral reading fluency	Oral Reading Fluency	Timed (1 Minute)	Read a text with accuracy, with little effort, and at a sufficient rate	On this timed subtasks, students were presented with a written grade-level story and asked to read aloud as quickly and accurately as they could
5b. Reading Comprehension	Reading Comprehension	Untimed	Respond correctly to different types of questions, including literal and inferential questions about the text they have read	On this untimed subtask, students were asked comprehension questions based on how far into the passage they were able to read in the oral reading fluency subtask. Students were only asked questions for which they had read far enough in the passage to come across the answer.
6. Listening Comprehension	Listening Comprehension; Oral Language	Untimed	Respond correctly to different types of questions, including literal and inferential questions about the text the assessor reads to them	On this untimed subtask, students were first read a story aloud by the enumerators, then asked five questions orally to assess their understanding of the story's meaning.

The TTR EGRA pilot and midline tools included the subtasks described in

Table 22. Dictation, while included in the QRP EGRA tools, was excluded from TTR. A silent reading comprehension subtask was developed by the TWG and piloted but excluded from midline data collection due to constraints on the length of the assessment. The oral vocabulary subtask was not piloted as it was unchanged from the version used by QRP.

Table 22: Pilot and Midline EGRA Subtasks

Subtask	Pilot	Midline
Letter name identification	Grade 2 only	Grade 2 only
Initial sound identification	Grade 2 only	Grade 2 only
Familiar word reading	Both grade 2 and grade 4	Both grade 2 and grade 4
Nonword reading	Both grade 2 and grade 4	Both grade 2 and grade 4
Oral reading fluency with comprehension	Both grade 2 and grade 4	Both grade 2 and grade 4
Listening comprehension	Both grade 2 and grade 4	Both grade 2 and grade 4
Familiar word reading	Both grade 2 and grade 4	Both grade 2 and grade 4
Dictation	Not piloted	Not administered for TTR
Oral vocabulary	Not piloted	Both grade 2 and grade 4
Silent reading comprehension	Both grade 2 and grade 4	Not administered for TTR midline

SSME

TTR also administered a set of SSME tools at midline to provide a multifaceted picture of school and classroom management practices. The SSME tools were developed in consultation with the TWG in a separate workshop in April 2017. These tools included the four instruments described in Table 23.

Table 23: Pilot and Midline SSME Tools

Tools	Respondents	Number administered	Length of administration
Student questionnaire	Student (as part of EGRA)	Ten per grade (2, 4)	5 minutes
School inventory, including a Grade 2 and a Grade 4 classroom	Enumerator completes, accompanied by head teacher or deputy director if appropriate	One per school	30 minutes
Head teacher/deputy director interview	Head teacher or deputy director	One per school	30 minutes
Teacher interview	Grade 2 and grade 4 teachers	One per grade (two per school)	25 minutes each (50 minutes total)

INSTITUTIONAL REVIEW BOARD

IRBs are responsible for ascertaining the acceptability of proposed research regarding institutional commitments and regulations, applicable laws, standards of professional conduct and practice, and ethical and societal norms. IRBs examine subject recruitment procedures, proposed remuneration, and the informed consent process. IRBs also evaluate the potential risks and benefits to participants outlined in each protocol. This EGRA study was approved by an accredited IRB in the United States, Solutions IRB, on January 10, 2018.

PILOTING, REVISION, AND FINALIZATION OF TOOLS

Pilot data collection of the EGRA and SSME tools developed with the working group served two purposes: 1) to test the logistical feasibility of the new tools, collect data to identify problematic items on a form, and determine if the test forms are appropriate difficulty for the population of interest; and

2) to evaluate the comparability of the QRP 2017 endline EGRA tools with the newly developed TTR EGRA tools and equate their results.

TTR used a different form of the EGRA for each language and each grade at each timepoint, midline and endline, to assess reading progress of students receiving the TTR intervention. The term form refers to the specific combination of subtasks included in each version of the assessment. TTR developed these new EGRA forms to mitigate memory effects or test leakage problems between the QRP endline and the TTR midline.

PILOTING AND EQUATING DATA COLLECTION

TTR piloted the draft EGRA and SSME tools in February 2018. TTR trained enumerator candidates February 12–16 to administer the EGRA using an electronic data capture system, Tangerine, and the SSME tools in Ona. Following the training, TTR collected pilot data from February 19 to March 2.

The five-day EGRA training focused on training 35 participants on EGRA administration. Of the participants, 24 individuals—12 in Kyrgyz and 12 in Russian—were selected to join data collection as EGRA enumerators and six—three in each language—were selected to serve as supervisors who would also serve as SSME enumerators. The remaining enumerators were trained in order to allow the team to select the best-performing enumerators and to have substitutes available if needed.

The training consisted of four days of training and one day of practical field testing in nearby Kyrgyz- and Russian-language schools in Bishkek. The training focused on introducing the EGRA subtasks and their administration on the data collection software, Tangerine, and familiarizing enumerators and supervisors with their roles, responsibilities and EGRA protocols. Throughout the workshop, personnel documented any programming or language concerns raised by the group. Staff applied changes to the programming Tangerine, Ona, and the EGRA stimuli to improve the tools prior to pilot data collection.

Training facilitators identified the six SSME enumerators/ supervisors from the group of training participants. These six individuals participated in an additional one-day intensive SSME and supervision training to review and practice the SSME tools.

Immediately following the pilot training, the study team updated EGRA stimuli and Tangerine based on lessons learned from the field test and enumerator feedback.

The six teams, three Kyrgyz-speaking and three Russian-speaking, collected pilot data from Monday, February 19 through Friday, March 2. Each team visited one school per day. In some cases, schools were visited multiple times, once for Kyrgyz-language assessments and once for Russian. Twenty-nine pilot schools were selected by convenience within the following parameters:

- Three hundred students in both language and in both grades, for 1,200 students total
- A maximum of 50 students assessed per grade at any one school
- A mix of small and large schools
- A mix of both rural and urban schools
- As much geographic diversity as possible²⁹
- A mix of high and low performing schools, but no schools that would be expected to show a large number of zero scores on the EGRA

²⁹ Schools were assessed in Bishkek, Chui, and Osh.

Each of the six teams consisted of one supervisor, who also administered the SSME, and four enumerators. Each supervisor arranged transportation for their team to and from the school. The team met with the school director at the beginning of the school day, typically by 8:30 a.m. Upon arrival at the school, the supervisor introduced themselves and the purpose of the visit to the school director. They also worked with the school director to identify an area where students could take the assessment. Then, supervisors randomly selected a grade 2 classroom to assess. Supervisors then randomly selected 14 students in that class to take the assessment and asked the students to remain in the area designated. Supervisors made a list of the selected students' names to call them when it is their turn to take the test and destroyed and discarded the list of names before leaving the school. Once the students were selected, supervisors guided them to the space designated for the testing. Each enumerator tested one student at a time.

The process described above was completed for grade 4 after the grade 2 assessment was complete. In several schools, grade 4 students were drawn from the second shift given the time required to complete the assessments in grade 2.

Enumerators administered four versions of each tool, referred to as Forms 1–4. The different form constructions allowed TTR to test multiple versions of selected subtasks. For equating needs, all QRP subtasks were taken by 100 students per grade per language alongside 100 students per grade per language on all TTR subtasks—including both versions of the familiar word reading, nonword reading, reading passages and associated comprehension questions subtasks. For all piloting needs, each TTR subtask was taken by at least 150 students, allowing for appropriate over-sampling to get to 150 non-zero scores on each subtask as recommended by the Toolkit. In each language, half of the enumerators administered odd forms (Forms 1 and 3), and half of the enumerators administered even forms (Forms 2 and 4). The form construction is described in Table 24. The numbers in the “Form” column indicate the order the subtask appears; “1” indicates the first subtask in the form, “2” the second, and so forth.

Table 24: Pilot Form Construction

Subtask	Form 1	Form 2	Form 3	Form 4
QRP letter name identification	1			
QRP initial sound identification		1		
QRP familiar word reading	2			
QRP nonword reading		2		
QRP oral reading fluency, story A (2 minutes)	3	3		
QRP reading comprehension	4	4		
QRP listening comprehension	5	5		
TTR letter name identification	6		1	1
TTR initial sound identification		6	2	2
TTR familiar word reading A	7		3	
TTR familiar word reading B				3
TTR nonword reading A			4	
TTR nonword reading B		7		4
TTR oral reading fluency, story A (1 minute)	8		5	
TTR reading comprehension A	9		6	
TTR oral reading fluency, story B (1 minute)		8		5
TTR reading comprehension B		9		6
TTR listening comprehension A	10		7	

TTR listening comprehension B		10		7
TTR student questionnaire	11	11	8	8

One member of the study team observed each team in person at least twice throughout data collection to ensure that the teams were properly administering the EGRA assessment and to capture any feedback from supervisors. Data submitted to Tangerine were monitored carefully each day to ensure the appropriate number of students were being assessed for each grade, language, gender, and form.

POST-PILOT REVISIONS

Following the pilot data collection, the study team selected the best-performing subtasks and updated Tangerine programming and other test materials for the spring midline data collection. Analyses completed include reviewing p-values, sum scores, and fluency scores. All analyses of means included a statistical significance test to consider differences across student gender. These results are not included in the memo due to length.

Analyses revealed a statistically significant difference in performance between boys and girls in one subtask: Kyrgyz grade 4 ORF and reading comprehension subtask version A. In all other cases, STS selected versions of the subtask by considering the comparability to the QRP endline form and overall—but not statistically significant—differences across gender. That is, while there may not have been a statistically significant difference across student gender for a particular subtask, the simple numerical differences were taken into account when making decisions on which version to use for the midline. Where no gender differences were present, form decisions were made in an attempt to allow equating of the TTR midline form to the QRP endline form.

In some cases, changes were made to subtasks following the pilot:

- In Kyrgyz grade 4, selected familiar words and nonwords were changed on the basis of item-level results to make the average number of letters per familiar word and per nonword more similar. Items of similar difficulty were exchanged between A and B versions of the subtasks to avoid compromising comparability.
- Final subtasks selected were reviewed to ensure words do not repeat; in one case—on the Russian grade 2 familiar word reading subtask—a word was substituted with a word of comparable difficulty to avoid repetition with another subtask.
- Russian nonword examples in both grades were changed from the QRP versions to avoid similarity with real words, as suggested in feedback from RTI International.
- Two Kyrgyz grade 2 reading comprehension version A questions had been highlighted for further examination before the pilot. Pilot data and feedback from enumerators found consistent responses between students, so these questions have not been changed.
- Two Kyrgyz grade 2 listening comprehension version A questions had been highlighted before the pilot. Question Two was modified before piloting to increase contrast with the third question.

Annex B: Operational data collection

This annex details what occurred during midline operational data collection, including enumerator training and selection of enumerators; procedures followed during EGRA administration, including sampling and school replacement; and data entry and cleaning.

ENUMERATOR TRAINING

TTR trained enumerator candidates April 1–6, 2018 in Bishkek on administering EGRA tools using two electronic data capture systems, Tangerine for EGRA and Ona for SSME tools. The six-day EGRA training focused on training 83 enumerator candidates on EGRA administration and protocols. Prior to training the data collection, ISR, pre-identified enumerator, supervisor, and QCO candidates. Of the participants, 48 individuals were selected to join the data collection as EGRA enumerators. Twenty-four served as supervisors, also responsible for administering the SSME tools, and two served as QCOs. The remaining enumerators were trained to serve as substitutes if needed.

The training consisted of five days of training and one day of field testing in nearby Kyrgyz- and Russian-language schools in Bishkek. The training focused on the specific contents of each of the EGRA subtasks and their specific administration protocols on the data collection software, use of tablets, and the roles and responsibilities of enumerators, supervisors, and QCOs during data collection.

Prior to the training, ISR pre-identified 24 SSME enumerators/supervisors. These individuals were separated from the EGRA group after the third day of training and participated in a three intensive SSME and supervisor training to review and practice the SSME tools.

During training, the enumerators and QCOs practiced in neighboring schools. Teams of two enumerators, overseen by the team supervisors, practiced administering the EGRA tools with at least two students in both grade 2 and 4. The two QCOs and the training facilitators oversaw each team's performance during the practice.

Enumerators were recruited through an open competition that sought candidates experienced with large-scale electronic data collection, working with early grade education, and native-level command of the target languages.

SELECTION OF ENUMERATORS

TTR selected enumerators based on performance in three scored enumerators accuracy quizzes. During these enumerator accuracy quizzes, all enumerators listened to a role play that was acted out in person using a “gold script” that included planned incorrect and challenging “student” responses. The percentage of items for which each enumerator's scoring was correct was calculated. All enumerators scored at least 90.00 percent of items accurately according to the “gold script.”

DATA COLLECTION PROCEDURES

Midline data collection took place in every oblast of the Kyrgyz Republic in April 2018. Immediately following midline training, STS personnel downloaded the operational EGRA using Tangerine and SSME using Ona/ODK Collect applications on each enumerator tablet on April 6. Tablets were checked to ensure that reinstallation did not cause any programming issues. STS also distributed all tablets to EGRA and SSME supervisors as well as provide four fully programmed back up tablets to each QCO, in case enumerators encountered tablet issues in the field that could not be resolved remotely.

The 24 teams—14 Kyrgyz-speaking and 10 Russian-speaking—collected midline data from Tuesday, April 10 through Friday, April 27. Each team visited one school per day. In rare cases, schools were visited multiple times, once for Kyrgyz-language assessments and once for Russian-language assessments. Two hundred and ninety-eight schools were assessed.

Each of the 24 teams consisted of one supervisor, who also administered the SSME, and two EGRA enumerators. Each supervisor arranged transportation for their team to and from the school. The teams met with the school director at the beginning of the school day, typically by 8:30 a.m. Upon arrival at the school, the supervisor introduced themselves and the purpose of the visit to the school director. They also worked with the school director to identify an area where students could take the assessment. Supervisors then sampled classes and students as described below. Once the students were selected, supervisors guided them to the space designated for the testing. Each enumerator tested one student at a time.

The process described above was completed for grade 4 after the grade 2 assessment was complete. In several schools, grade 4 students were drawn from the second shift given the time required to complete the assessments in grade 2.

WITHIN-SCHOOL SAMPLING OF STUDENTS

At each school, 10 students—five girls and five boys—in each grade were assessed per day. The students were randomly selected using the following steps:

- In cases where there were multiple classes per grade, the supervisor randomly selected a class to assess
- The supervisor visited the randomly selected class and asked the girls present in the class to count numbers in order, from “one” to the number of girls present
- Using a Random Number Generator Application on the tablet, the supervisor input the number of girls in the class and generated five random numbers, with no numbers repeated
- The supervisor read the numbers aloud, and the girls whose numbers were called were taken to the assessment waiting area
- The process described above was repeated for boys to select five boys randomly

In this manner, each team assessed per day 10 students in grade 2 and then 10 students in grade 4, for a total of 20 students per team per day.

If a student declined to participate in the assessment, enumerators were instructed to select the next student. For example, if a boy with the number 5 refuses to participate, they selected the boy with number 6.

If a class contained there were fewer than 5 students of a given gender, additional students from the other gender were assessed to reach 10 students per grade

FINAL SAMPLE

Table 25 shows the achieved sample size.

Table 25: Number of Student and Schools Sampled

School Group	Language	Grade 2 N Students	Grade 4 N Students	N Schools
QRP-only	Kyrgyz	561	550	57
	Russian	548	543	57
QRP+TTR	Kyrgyz	529	519	54
	Russian	128	129	13
TTR-only	Kyrgyz	564	553	57
	Russian	506	497	51
Total	Kyrgyz	1,654	1,622	168
	Russian	1,182	1,169	121
Grand Total		2,836	2,791	289

REPLACEMENT PROCEDURES

TTR's experience during EGRA administration brought to light gaps between the EMIS dataset and realities on the ground. The discrepancies were related to differences in the school characteristics, grades available and LOIs. A concentrated effort was made to replace single-grade schools with schools containing both targeted grades in the appropriate language based on the grade/urbanicity sampling parameters that challenged the original sampling parameters. During the course of this study, 15 schools (5.2 percent of the final sample) required replacement. According to documentation from data collection staff, the most commonly cited reasons for replacing sampled schools was inaccessibility due to safety, followed by inaccessibility due to distance, school closure, and as mentioned the targeted grades and language not available/present. Through contingency planning, randomly sampled replacements schools were selected by TTR statisticians, prior to data collection, which matched the same school demographics as the originally sampled school as much as possible in order to maintain the sampling frame to the best extent possible.

DATA QUALITY ASSURANCE PROCESSES

STS, through ISR, implemented a number of strategies to track the progress of data collection as well as provide oversight and quality assurance check on the EGRA and SMES data collection. These strategies included the following:

- Supervisors for each team provided on-the-ground oversight of data collection for their teams in the field, including completing the Supervisor Field Assessors' Monitoring. Reports were sent in daily by taking a picture via their smartphone using WhatsApp.
- Study team members provided on-the-ground monitoring of data collection to teams in the field so as to quickly address any feedback from supervisors or enumerators and to troubleshoot any questions or issues raised by enumerator teams related to tablet use, sampling, administration protocols, inter-rater reliability (IRR), and EGRA and SSME tools.

- STS followed the guidance laid out in the EGRA Toolkit 2.0³⁰, by regularly uploading and reviewing data during operational data collection. STS reviewed uploaded EGRA and SSME data from Tangerine and Ona each day to ensure the appropriate number of students were being assessed for each grade, language, gender, oblast, and sample—TTR only, QRP Only, TTR +QRP—each day.
- QCOs were also assigned to teams in the northern and southern regions of the Kyrgyz Republic to ensure data collection procedures were followed accordingly. QCO's submitted daily Quality Assurance Daily Reports³¹, received by EGRA team supervisors, logging any issues in the number and type of data collected. These reports were later cross-referenced against the number and type of data collected in the uploaded data using a single data tracking spreadsheet. Any discrepancies would be noted, and follow-up calls made by the Assessment Specialist to the supervisor to get clarification on these issues. Issues and discrepancies were addressed during the data cleaning process.

STS staff visited 23 schools in person to observe data collection. ISR visited all assessed schools in the south, and about half of schools in the north. Each team was visited at least once, and many teams were visited several times.

Data collection concluded on April 27, and remaining data were downloaded from problematic tablets through May 4.

DATA ENTRY AND CLEANING

Throughout operational data collection, TTR followed the guidance laid out in the EGRA Toolkit 2.0³², by regularly uploading and reviewing data in order to better manage and track data collection issues and progress. In addition to internal tracking, QCO were also assigned to teams in the northern and southern regions of Kyrgyz Republic to ensure data collection procedures were followed accordingly by enumerator teams. QCOs submitted daily Quality Assurance Daily Reports³³, received by EGRA team supervisors, logging any discrepancies in the number and type of data collected that differed from the intended sample. These reports were later cross-referenced against the uploaded data in Tangerine and Ona using a single Data Master Tracker.

The Data Master Tracker also contained detailed documentation of all issues encountered by grade, language, and survey type. This tracker was later used by TTR statisticians as part of the data cleaning process. Disposition codes were applied to categorize the various issues or problems that emerged in the data collection process. According to the documentation from TTR statisticians, the most school-level issues steamed around misclassification of gender, school name, IRR, as well as schools needing to be replaced due to inaccessibility. Once all data was received and downloaded, additional codes were applied to the datasets during cleaning to flag incomplete assessments, and schools that were over or undersampled. These codes were used in determining cleaning rules which were incorporated into the database using syntax to clean the data accordingly. These coding and flagging procedures helped to

³⁰ RTI International. *Early Grade Reading Assessment (EGRA) Toolkit, Second Edition*. (Washington, DC: United States Agency for International Development. 2015), p. 103).

³¹ These forms will document the school demographics, type and number of each assessment or questionnaire collected, status of data upload, and any other issues or challenges encountered that day in the school.

³² RTI International. *Early Grade Reading Assessment (EGRA) Toolkit, Second Edition*. (Washington, DC: United States Agency for International Development. 2015), p. 103).

³³ These reports documented the school demographics, type and number of each assessment or questionnaire collected, status of data upload, and any other issues or challenges encountered that day in the school.

ensure the various and nuanced context of the data collection at the school level were sufficiently cataloged and taken into consideration during the data cleaning, analysis and reporting process. Codes were distinguished by number and color given the issues severity and breach of data quality.

Annex C: Analytic methods

This annex details the processes followed during analysis, including weighting and equating.

EQUATING

Equating techniques vary according to their data collection design and to the statistical methods chosen. The three possible data collection designs include *single groups design*, where a same group of students take two forms, *randomly equivalent groups designs*, where students are randomly assigned to one of two forms, and *nonequivalent groups design* where students represent different populations but where the forms they take have common items—known as “anchor items”—to establish a relationship between both groups of students. In terms of the possible methodologies, equating can be classical-test theory based or item-response theory based, and within each group, there is a gamut of techniques that can be applied depending on the number of students, items, and other considerations around the sample.

The EGRA Toolkit provides guidance with regards of which equating methodologies to use under which circumstance. Following those recommendations, mean or linear equating methods were used for all the fluency subtasks, depending on the strength of their linear relationship, and item response theory (IRT) Rasch methods for the identification of syllables subtask in grade 2 only. Equating was not conducted on the reading comprehension and listening comprehension subtasks because of the number of items were few and the small amount of variance among the items prevented made equating scores with precision difficult; this is consistent with EGRA guidance. The data collection design was a single-group design in which the same students took both forms—TTR and QRP—enabling to directly attribute differences in difficulties to the items included in each form. A summary of the equating methodology used in this study is outlined in Table 26.

Table 26: Equating Methodologies

Subtask	Grade Level	Language	Method
Letter name identification	Grade 2	Kyrgyz	Mean
	Grade 2	Russian	Mean
Identification of syllables	Grade 2	Kyrgyz	IRT Rasch
	Grade 2	Russian	IRT Rasch
Familiar word reading	Grade 2	Kyrgyz	Linear
	Grade 2	Russian	Linear
	Grade 4	Kyrgyz	Linear
	Grade 4	Russian	Mean
Nonword reading	Grade 2	Kyrgyz	Linear
	Grade 2	Russian	Mean
	Grade 4	Kyrgyz	Linear
	Grade 4	Russian	Linear
Oral Reading Fluency	Grade 2	Kyrgyz	Linear (all forms)
	Grade 2	Russian	Linear (all forms)
	Grade 4	Kyrgyz	Linear (all forms)
	Grade 4	Russian	Linear (all forms)

WEIGHTING

In order to compute the sampling weights used to produce more representative population estimates, the analysts needed the following information about all the schools in the relevant population:

- Type of school (TTR, QRP-only, TTR+QRP)
- Oblast
- Location of the school (urban, rural, semi-urban)
- LOI used in primary classrooms
- Number of grade 2 and grade 4 classrooms in each school, per language
- Number of students in each grade 2 and grade 4 classroom, per language

STS collected information from the project via several datasets and spreadsheets, yet some information was missing, and certain characteristics were inconsistent across the sources and variables. Missing data existed at the level of urbanicity and at the level of a number of students and classrooms in a school and for a given LOI for QRP only schools. Analysts left the urbanicity information blank when not reported and estimated the number of classes per LOI and students per class by LOI using the number of teachers reported in the datasets. Inconsistent information was found at the level of LOI, with some schools reporting to provide instruction in a given language and having no students enrolled in classes taught in that language; for simplicity, STS decided to take the language reported as the official variable.

Two datasets were created for the purposes of weighting: a complete list of Kyrgyz schools and a complete list of Russian schools. The school that provided instruction in both languages were found in both datasets. These datasets used an identifier that was consistent with that used in the midline data collection process. These datasets were used to compute sampling weights for each grade level and LOI.

The sampling weights were built under the following assumptions:

- The sampling method was a three-level stratified clustered sampling
 - First, schools were selected based on the following strata
 - LOI
 - Type of school
 - Oblast
 - Second, classrooms were randomly selected in each school for each sampled grade level
 - Third, ten students were randomly selected in each classroom
- Schools whose number of classrooms were less than one—due to estimation or unreliable information—were assumed to have at least one classroom in each reported grade level per LOI
- Schools whose number of students were less than 10 were assumed to have at least 10 students

Weights were computed using Stata.

Annex D: Concept note

USAID Kyrgyz Republic Basic Education - Time to Read (TTR)

Early Grade Reading Assessment (EGRA) Summary Concept Note

September 2017

SUMMARY

TTR, with support from School-to-School International (STS), will administer an EGRA and Snapshot of School Management Effectiveness (SSME) in spring 2018 (midline) and spring 2019 (endline) that meets two broad needs:

1. provides a nationally representative “snapshot” of reading performance in the Kyrgyz Republic over time
2. provides an estimate of TTR intervention effects on reading progress at the primary level by comparing performance across populations

STS will use the EGRA and SSME to answer specific research questions, described below, that meet these needs.

FRAMEWORK

Populations of Interest

TTR will administer an EGRA at midline and endline to a representative sample of three populations of schools as requested by USAID:

1. **Group 1:** public schools with primary grades that received USAID-funded Quality Reading Project (QRP) interventions and will not receive TTR interventions (QRP-only)
2. **Group 2:** public schools with primary grades that received QRP and will receive TTR interventions (QRP+TTR)
3. **Group 3:** public schools with primary grades that did not receive QRP interventions and will receive TTR interventions (TTR-only)

Only public schools with primary grades that offer reading instruction in Russian and/or Kyrgyz will be included in the populations described above. TTR will draw a representative sample of each of these three groups for data collection. Group 3 will serve as the treatment group receiving TTR and group 1 will serve as the comparison group not receiving TTR. EGRA data collected by QRP in spring 2017 from that project’s treatment school population serve as baseline data for groups 1 and 2. Data from QRP control schools in 2017 serve as baseline data for group 3.

Research Questions

The EGRA midline and endline reports will answer the following research questions only:

1. How do Kyrgyz and Russian reading outcomes of students in Grade 2 and Grade 4 nationally (across all three groups combined) vary by sub-groups and across time points (baseline, midline, endline)?
2. How do Kyrgyz and Russian reading outcomes of students in Grade 2 and Grade 4 differ between TTR-only (group 3) and QRP-only schools (group 1) across time points?
3. How do Kyrgyz and Russian reading outcomes of students in Grade 2 and Grade 4 differ between TTR-only (group 3) and QRP+TTR schools (group 2) across time points?
4. How does the proportion of students who can read and understand the meaning of grade level text vary across time points in QRP+TTR (group 2) and TTR-only schools (group 3) in G2 and G4 in Kyrgyz and in Russian?

Subgroups and Disaggregation of Results

Student reading outcomes on the EGRA subtasks will be reported by language of the examination (Kyrgyz or Russian) and by grade level (grade 2 and grade 4). Results will be disaggregated by gender, oblast, urbanicity, and age as reported by student.

TOOLS

EGRA

STS will collaborate with the assessment TWG comprised of local education officials and stakeholders to conduct an EGRA adaptation workshop to develop updated EGRA tools for both languages and grades, based on the existing QRP endline EGRA tools. The EGRA adaptation workshop will revise the QRP endline tools to fulfill two purposes. The tools will be:

1. compliant with the latest guidance regarding the assessment (the EGRA Toolkit, 2nd Edition, as well as a 2016 external quality assurance evaluation of the QRP midline tools conducted by RTI International and funded by USAID).³⁴
2. equivalent, to the largest extent possible, to the endline tools used by QRP in spring 2017.

The TTR EGRA tools will include the following subtasks:

Table 1. EGRA Subtasks

Subtask	Grade administered
Letter name identification	Grade 2 only
Initial sound identification	Grade 2 only
Familiar word reading	Both Grade 2 and Grade 4
Nonword decoding	Both Grade 2 and Grade 4
Oral reading fluency with comprehension	Both Grade 2 and Grade 4
Listening comprehension	Both Grade 2 and Grade 4
Familiar word reading	Both Grade 2 and Grade 4
Dictation	To be determined
Oral vocabulary	To be determined

TTR will determine together with USAID and the TWG whether the Dictation and Oral Vocabulary subtasks will be included. These tasks are not required, core subtasks and not generally included in EGRA, but may be included in the TTR EGRA if it would be of value to the TWG.

³⁴ RTI International. 2015. Early Grade Reading Assessment (EGRA) Toolkit, Second Edition. Washington, DC:

United States Agency for International Development, and RTI International. 2016. Evaluation of the Quality Reading Project's Research Process at Midterm. Washington, DC: United States Agency for International Development.

https://globalreadingnetwork.net/sites/default/files/eddata/RI-021_RT1%20Review%20of%20QRP%20Evaluation%20at%20Midterm_.pdf

SSME

STS will also administer a set of SSME tools, which are a series of short surveys that provide a multi-faceted picture of school and classroom management practices in a school. The SSME tools developed in consultation with the TWG in April 2017 include the following:

Table 2. SSME tools

Tools	Respondents	Number administered	Estimated time to administer³⁵
Student questionnaire	Student (as part of EGRA)	Ten per grade (2, 4)	5 minutes
School inventory, including a 2nd and a 4th grade classroom	Enumerator completes, accompanied by head teacher or deputy director if appropriate	One per school	30 minutes
Head teacher/deputy director interview	Head teacher or deputy director	One per school	30 minutes
Teacher interview	Grade 2 and Grade 4 teachers	One per grade (two per school)	25 minutes each (50 minutes total)

PILOTING AND EQUATING PLAN

Pilot data collection serves two purposes: 1) to test logistical feasibility of the new tools, collect data to identify problematic items on a form, and determine if the test forms are appropriate difficulty for the population of interest; and 2) to evaluate the comparability of the QRP endline forms with these newly developed forms and equate their results. The dual purposes increase the complexity of the pilot and the sample size required.

STS plans to utilize a different form of the EGRA for each language and each grade at each timepoint (midline in spring 2018 and endline in spring 2019) to assess reading progress of students receiving the TTR intervention. The need for a new EGRA form is to mitigate memory effects or test leakage problems when collecting data at endline.³⁶ Both forms will follow a standard EGRA development process and will be assessed for equivalence during the pilot. If the forms are not found to be equivalent, STS will equate them using the pilot data.

Pilot Sample Size

TTR will pilot the forms with 1,200 students. Three hundred students would take the assessments in each grade and in each language. Each of the 1,200 students will take two of the three forms being equated. This plan allows each form to be administered to 200 students, which meets Toolkit requirements for piloting. At the same time, it allows for 100 students per form in the equating analysis. Table 3 describes this plan.

³⁵ Estimated times to administer are based on a field test of tools performed at two schools in the Kyrgyz Republic on April 20, 2017.

³⁶ This recommendation is consistent with prior practice in the Kyrgyz Republic. QRP similarly developed new EGRA forms for each round of data collection.

Table 3. Sample Size Requirements

Student Group	Take QRP Endline Form	Take TTR Form 1	Take TTR Form 2	N Students per grade, per language	N Students total (2 languages, 2 grades)
1	Yes	Yes		100	400
2	Yes		Yes	100	400
3		Yes	Yes	100	400
Total				300	1,200

Selecting Schools for Pilot

When sampling for pilot purposes, a convenient sample may be used, and a larger sample of students may be drawn from each school than being used for the full study. While some effort should still be made to maintain representativeness in the pilot sample, it does not dictate the sample. Schools do not need to be randomly selected. The TTR field office, with the involvement of other stakeholders as appropriate, may select schools to participate in the pilot if desired. Field office staff may best understand the convenience of accessing schools, especially if piloting takes place during poor weather in late fall.

Pilot schools may be determined by convenience within the following parameters:

- Three hundred students in both language and in both grades, for 1,200 students total
- A maximum of 50 students assessed per grade at any one school
- A mix of small and large schools
- A mix of both rural and urban schools
- As much geographic diversity as possible
- A mix of high and low performing schools, but no schools that would be expected to show a large number of “zero” scores on the EGRA

If each school selected contains on average 25 students per grade (50 students per school), then enumerators would likely visit 24 schools during the pilot (12 Russian-language and 12 Kyrgyz-language). Schools that teach in both languages might allow the number of schools visited to be smaller.

SAMPLING PLAN

Sampling for TTR meets the needs of the research questions described above. Two samples, a nationally representative and an analytic sample, are described below. The overall study sample will encompass the needs of the nationally representative sample. That is, the sample used for the nationally representative ‘snapshot’ will be a sub-sample of, and not required in addition to the analytical sample.

Nationally Representative Sample

TTR requires a minimum of 290 students per language per grade in order to generalize to the project population with 10 students per school per grade.³⁷ Table 4 shows the required sample size.

It should be noted that this sample size does not allow for statistical comparisons within the sample drawn. The sample of schools will be drawn in accordance with representation of the full population of schools in the Kyrgyz Republic based on Oblast, LOI (Russian and Kyrgyz), and Urbanicity. In addition, students will be sampled at the class level in accordance with representation of student gender across the population of students in the country.

³⁷ This sample assumes an ICC of 0.25 (average for these types of studies), a standard deviation of ORF scores based on scores from the QRP Midline Report, and a desired confidence band width of 10 (95 percent confidence that ORF scores are \pm 5 points of the mean).

Table 4. Number of Students and Schools Required

	n Students, Grade 2	n Students, Grade 4	n Schools
Kyrgyz	290	290	29
Russian	290	290	29
Total	580	580	58

Analytic Sample

Statistical comparisons are desired between the three distinct populations of interest described above (i.e., QRP-Only, QRP+TTR, and TTR-Only). As above, the sample of schools will be drawn in accordance with representation of the full population of schools in the Kyrgyz Republic based on Oblast, LOI (Russian and Kyrgyz), and Urbanicity. Students will be sampled at the class level in accordance with representation of student gender across the population of students in the country.³⁸

Table 5. Number of Students and Schools Required by Group

Group	Language	N Students, Grade 2	N Students, Grade 4	N Schools
QRP-Only (Group 1)	Kyrgyz	600	600	60
	Russian	600	600	60
QRP+TTR (Group 2)	Kyrgyz	600	600	60
	Russian	600	600	60
TTR-Only (Group 3)	Kyrgyz	600	600	60
	Russian	600	600	60
Total	Kyrgyz	1,800	1,800	180
	Russian	1,800	1,800	180
Grand Total		3,600	3,600	360

*Note. While this sample size is necessary for the analytic comparisons, weighting will be required to ensure representativeness.

LIMITATIONS

1. Most schools in the Kyrgyz Republic have participated in a previous USAID-funded reading intervention (QRP), and all eligible schools that did not participate in QRP will be served by TTR. This limitation means that an appropriate population of comparison schools does not exist in the country, limiting the counterfactual evidence available to be collected for this study. Drawing comparison schools from the population of schools that previously received the QRP intervention presents risks to appropriate comparability.
2. QRP control school data used as baseline for TTR Group 3 schools may not be representative of that group. To the extent possible, STS will take additional steps to create a matched sample at midline based on observable characteristics and to control for dosage of QRP and TTR.
3. Attribution of the TTR intervention on reading outcomes as measured by EGRA is limited given that it is primarily an implementation project that does not randomly assign schools to treatment conditions, ruling out an experimental design (or a randomized control trial).

³⁸ To compare by groups, this sample assumes stated power of 0.80, margin of error of 3.9 percent, ICC = 0.25, and $\alpha = 0.05$, to be able to detect an effect size (Cohen's d) of 0.27 with an overall sample size of 1,800 students per grade per language when assessing 10 students per grade. With these assumptions, this sample size also allows for statistical comparisons by student gender and urbanicity with the ability to detect an effect size of 0.38. With the assumptions noted above and representative coverage of the seven oblasts, the study can detect effect sizes equal to 0.42.

4. QRP EGRA tools do not fully align with all guidance in the EGRA Toolkit, 2nd Edition because the baseline tools were produced prior to release of the 2nd Edition. Revising the QRP tools to fully align with guidance may complicate comparability of data between QRP and TTR EGRA administrations. Piloting will provide evidence regarding the possibility of equating the tools.
5. Teacher and student exposure to the TTR intervention may be limited to approximately six months at midline due to delays in implementation caused by external factors. Results may not reflect gains in student outcomes that would be expected with full implementation.
6. The EGRA results will not provide appropriate data for cross-linguistic comparisons; that is, the report will not statistically compare student reading skills in Kyrgyz with student reading skills in Russian. Acquisition of language and reading development depend on several factors including the different levels of orthographic transparency, visual complexity, and phonology.

Annex E: Reliability of the EGRA subtask items

CORRELATIONS

Table 27 through Table 30 show the Pearson bi-variate correlation results for the 2018 EGRA subtasks by grade and language. In general, the correlations between the familiar word reading, nonword reading, ORF, and reading comprehension subtasks were moderate to strong. Correlations with the letter name identification, initial sound identification, oral vocabulary, and listening comprehension subtasks were generally weak but statistically significant.

Table 27: Correlations between EGRA Subtasks, Kyrgyz Grade 2

Subtask	Letter name identification	Initial sound identification	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
Letter name identification	1.00							
Initial sound identification	0.16**	1.00						
Familiar word reading	0.76**	0.08**	1.00					
Nonword reading	0.70**	0.10**	0.92**	1.00				
Oral vocabulary	0.69**	0.10**	0.93**	0.90**	1.00			
Oral reading fluency	0.13**	0.06*	0.17**	0.16**	0.20**	1.00		
Reading comprehension	0.58**	0.19**	0.70**	0.65**	0.74**	0.23**	1.00	
Listening comprehension	0.10**	0.15**	0.13**	0.15**	0.18**	0.21**	0.31**	1.00

Legend of statistical significance: ** $p < 0.01$

Table 28: Correlations between EGRA Subtasks, Kyrgyz Grade 4

Subtask	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
Familiar word reading	1.00					
Nonword reading	0.82**	1.00				
Oral vocabulary	0.82**	0.86**	1.00			
Oral reading fluency	0.13**	0.17**	0.26**	1.00		
Reading comprehension	0.45**	0.45**	0.61**	0.38**	1.00	
Listening comprehension	0.10**	0.17**	0.19**	0.34**	0.39**	1.00

Legend of statistical significance: ** $p < 0.01$

Table 29: Correlations between EGRA Subtasks, Russian Grade 2

Subtask	Letter name identification	Initial sound identification	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
Letter name identification	1.00							
Initial sound identification	0.09**	1.00						
Familiar word reading	0.58**	0.08**	1.00					
Nonword reading	0.58**	0.10**	0.88**	1.00				
Oral vocabulary	0.58**	0.05	0.93**	0.87**	1.00			
Oral reading fluency	0.25**	0.04	0.33**	0.31**	0.37**	1.00		
Reading comprehension	0.37**	0.02	0.52**	0.46**	0.63**	0.45**	1.00	
Listening comprehension	0.31**	0.02	0.38**	0.31**	0.44**	0.53**	0.63**	1.00

Legend of statistical significance: ** p < 0.01

Table 30: Correlations between EGRA Subtasks, Russian Grade 4

Subtask	Familiar word reading	Nonword reading	Oral vocabulary	Oral reading fluency	Reading comprehension	Listening comprehension
Familiar word reading	1.00					
Nonword reading	0.82**	1.00				
Oral vocabulary	0.82**	0.86**	1.00			
Oral reading fluency	0.13**	0.17**	0.26**	1.00		
Reading comprehension	0.45**	0.45**	0.61**	0.38**	1.00	
Listening comprehension	0.10**	0.17**	0.19**	0.34**	0.39**	1.00

Legend of statistical significance: ** p < 0.01

TOOL RELIABILITY

The quality of the assessment tools was evaluated through reliability analysis which consists of analyzing the reliability of the full assessment using coefficient alpha with percentage correct scores on each subtask. This index varies between zero and one, where a value closer to one indicates that the performance of the students can be easily generalized. This analysis treats each subtask as a single item with a score ranging from 0.0 to 1.0 for each student based on their percentage correct on the subtask.

Table 31 through Table 34 show the results of this analysis. The overall EGRA internal consistency in 2018 ranged from 0.78 to 0.84 depending on the grade and language. These results suggest that the EGRA tools had a high-level of internal consistency.

Table 31: 2018 EGRA Reliability Estimates, Kyrgyz Grade 2

EGRA Subtask	Number of students	Corrected item-total correlation	Cronbach's alpha if item deleted
Letter name identification	1650	0.68	0.81
Initial sound identification	1650	0.16	0.86
Familiar word reading	1650	0.80	0.79
Nonword reading	1650	0.79	0.79
Oral vocabulary	1650	0.28	0.85
Oral reading fluency	1650	0.88	0.77
Reading comprehension	1650	0.77	0.79
Listening comprehension	1650	0.25	0.86
Cronbach's Alpha	1650	0.84	---

Table 32: 2018 EGRA Reliability Estimates, Kyrgyz Grade 4

EGRA Subtask	Number of students	Corrected item-total correlation	Cronbach's alpha if item deleted
Familiar word reading	1621	0.68	0.73
Nonword reading	1621	0.66	0.71
Oral vocabulary	1621	0.27	0.80
Oral reading fluency	1621	0.80	0.68
Reading comprehension	1621	0.68	0.71
Listening comprehension	1621	0.29	0.82
Cronbach's Alpha	1621	0.78	---

Table 33: 2018 EGRA Reliability Estimates, Russian Grade 2

EGRA Subtask	Number of students	Corrected item-total correlation	Cronbach's alpha if item deleted
Letter name identification	1179	0.56	0.80
Initial sound identification	1179	0.06	0.86
Familiar word reading	1179	0.77	0.76
Nonword reading	1179	0.71	0.77
Oral vocabulary	1179	0.50	0.81
Oral reading fluency	1179	0.80	0.75
Reading comprehension	1179	0.64	0.78
Listening comprehension	1179	0.49	0.81
Cronbach's Alpha	1179	0.82	---

Table 34: 2018 EGRA Reliability Estimates, Russian Grade 4

EGRA Subtask	Number of students	Corrected item-total correlation	Cronbach's alpha if item deleted
Familiar word reading	1167	0.75	0.80
Nonword reading	1167	0.70	0.80
Oral vocabulary	1167	0.43	0.85
Oral reading fluency	1167	0.85	0.77
Reading comprehension	1167	0.75	0.80
Listening comprehension	1167	0.47	0.85
Cronbach's Alpha	1167	0.84	---

INTER-RATER RELIABILITY

To record the level of enumerator agreement throughout data collection, enumerators undertook daily measures of IRR according to the following protocol. Enumerators worked in pairs to assess the first student of the day. During this first assessment, one enumerator acted as the “main enumerator”, administering the EGRA and scoring the student responses in his or her tablet. The second enumerator simultaneously listened and also scored the student responses in his or her tablet. Once the assessment was completed, and the student had returned to class, the two enumerators compared and discussed their scoring of the student’s responses. Any points of disagreement or difference in marking were brought to the attention of supervisors and discussed during team meetings. Enumerator pairs took turns playing the role of the main enumerator from each day to the next.

The percentage agreement between enumerators and Kappa coefficient from the 2018 data collection are presented by subtask in Table 35 and Table 36. Kappa is a measure of how many items the enumerators within a pair scored differently on an assessment out of the total number of items within a subtask. Kappa values greater than 0.75 are considered excellent.

Overall, among the IRR administrations conducted in during data collection, agreement was high on all subtasks across grades and languages.

Table 35: Inter-Rater Reliability Estimates by Subtask, Kyrgyz

Subtask	Kyrgyz Grade 2 N=68		Kyrgyz Grade 4 N=104	
	Percentage agreement	Kappa	Percentage agreement	Kappa
Letter name identification	99.4%	0.98	---	---
Initial sound identification	97.1%	0.86	---	---
Familiar word reading	99.7%	0.99	99.6%	0.97
Nonword reading	99.2%	0.98	98.4%	0.95
Oral vocabulary	99.7%	0.99	99.8%	1.00
Oral reading fluency	99.3%	0.98	99.3%	0.97
Reading comprehension	99.1%	0.98	98.3%	0.94
Listening comprehension	97.9%	0.95	99.4%	0.99

Table 36: Inter-Rater Reliability Estimates by Subtask, Russian

Subtask	Russian Grade 2 N=35		Russian Grade 4 N=67	
	Percentage agreement	Kappa	Percentage agreement	Kappa
Letter name identification	95.3%	0.82	---	---
Initial sound identification	95.4%	0.81	---	---
Familiar word reading	98.4%	0.95	99.3%	0.97
Nonword reading	97.6%	0.93	98.5%	0.95
Oral vocabulary	98.6%	0.93	99.7%	1.00
Oral reading fluency	99.0%	0.97	99.0%	0.97
Reading comprehension	100.0%	1.00	99.4%	0.94
Listening comprehension	98.9%	0.97	97.6%	0.99

Annex F: Intraclass correlations

The intraclass correlation, or the intraclass correlation coefficient, is a descriptive statistic that describes how strongly units in the same group resemble each other. A value closer to one indicates high similarity between values from the same group. For the 2018 EGRA data, we computed the intraclass correlation coefficient for ORF by school across grades and languages. The results, which appear in Table 37, indicate that the similarity in ORF performance among students in the same school is relatively low. Of note, students in the same schools among the Russian sample seem to be more similar to each other than students in the same schools among the Kyrgyz sample.

Table 37: Intraclass Correlation Coefficients for Oral Reading Fluency

	Kyrgyz	Russian
Grade 2	0.17	0.25
Grade 4	0.15	0.30

Annex G: Distributions of oral reading fluency scores

Figure 33: Distribution of Oral Reading Fluency Scores for All Students, Kyrgyz Grade 2

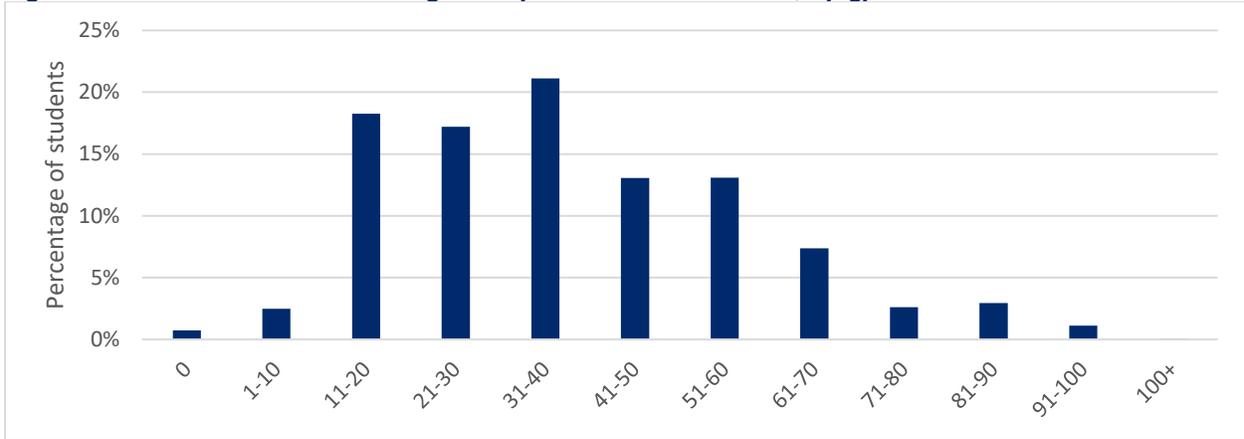


Figure 34: Distribution of Oral Reading Fluency Scores for All Students Distribution, Kyrgyz Grade 4

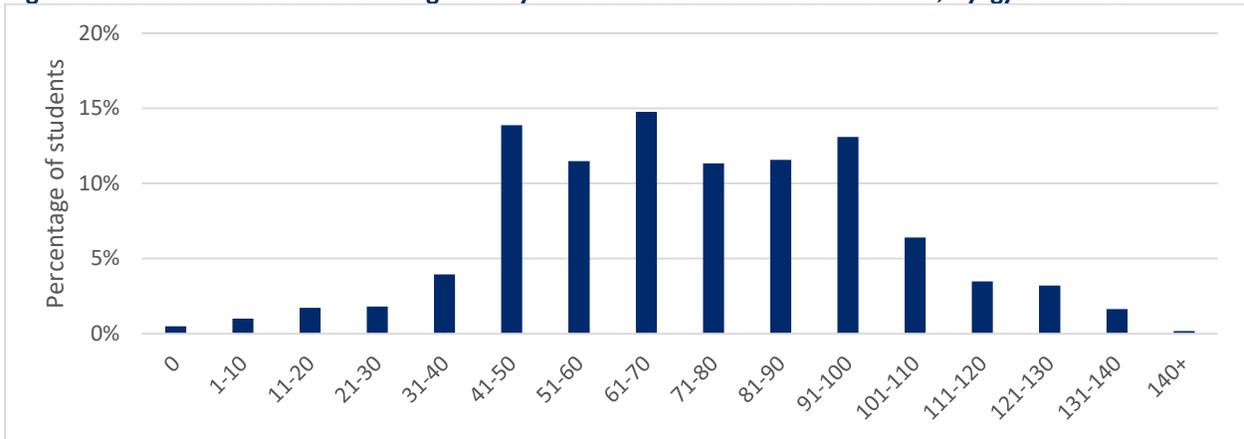


Figure 35: Distribution of Oral Reading Fluency Scores for All Students, Russian Grade 2

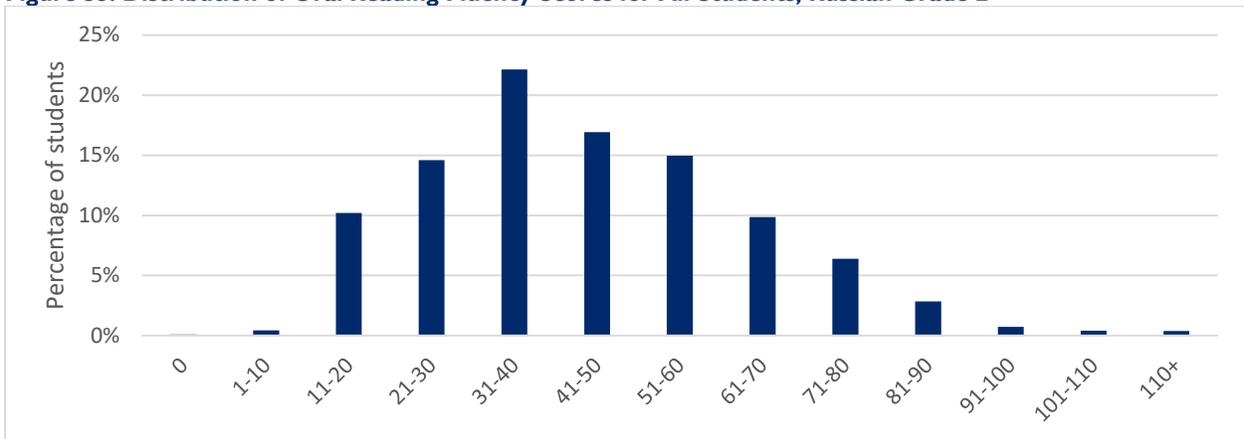
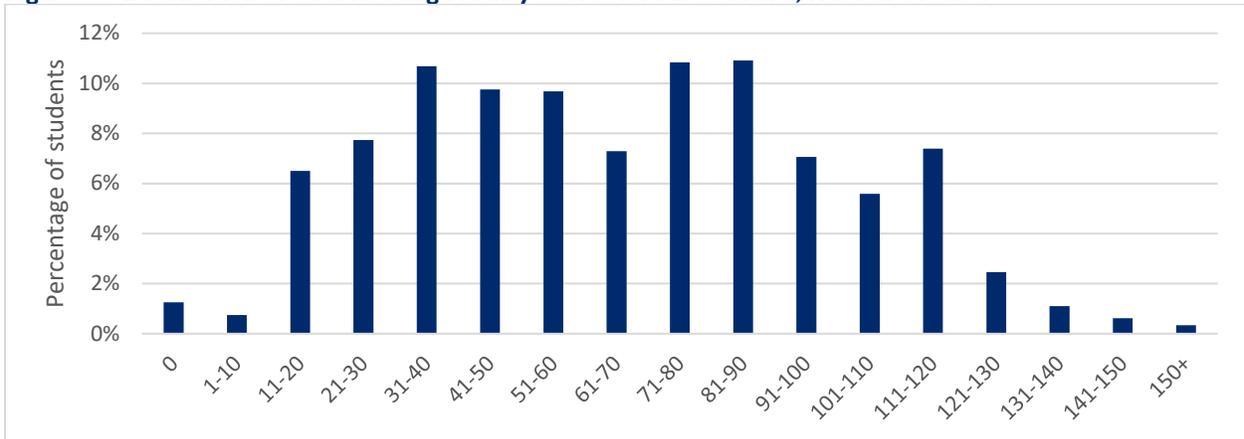
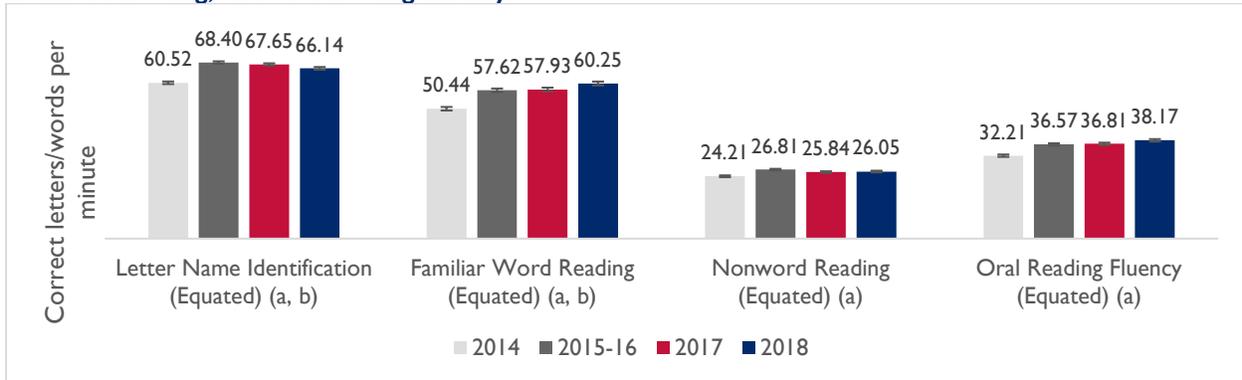


Figure 36: Distribution of Oral Reading Fluency Scores for All Students, Russian Grade 4



Annex H: EGRA results figures

Figure 37: Kyrgyz Grade 2 Mean Scores by Year – Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency

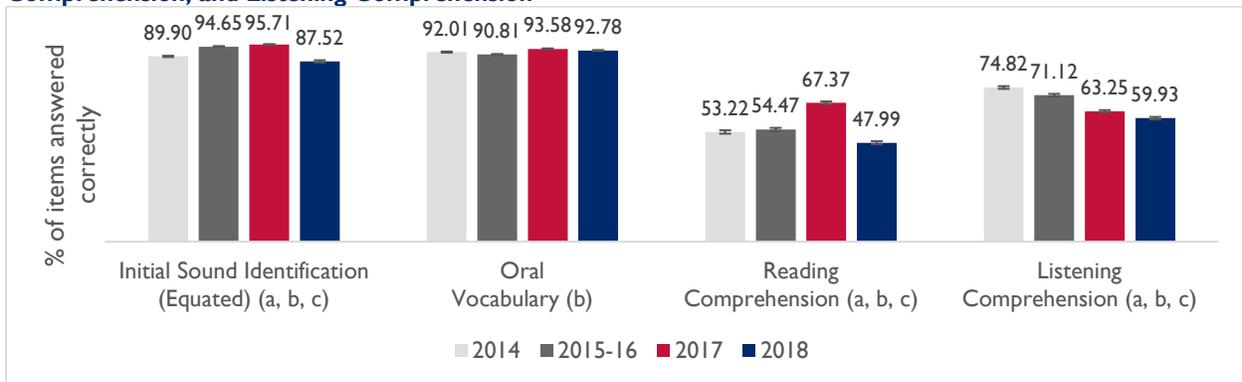


Subtasks marked with the letter “a” denotes differences between 2018 and 2014 are statistically significant at $p < 0.05$.

Subtasks marked with the letter “b” denotes differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.

Subtasks marked with the letter “c” denotes differences between 2018 and 2017 are statistically significant at $p < 0.05$.

Figure 38: Kyrgyz Grade 2 Mean Scores by Year – Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension

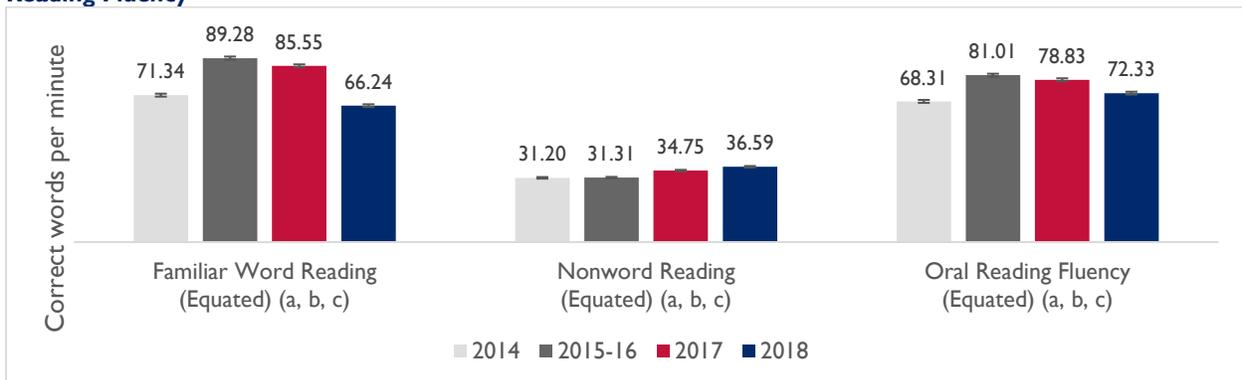


Subtasks marked with the letter “a” denotes differences between 2018 and 2014 are statistically significant at $p < 0.05$.

Subtasks marked with the letter “b” denotes differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.

Subtasks marked with the letter “c” denotes differences between 2018 and 2017 are statistically significant at $p < 0.05$.

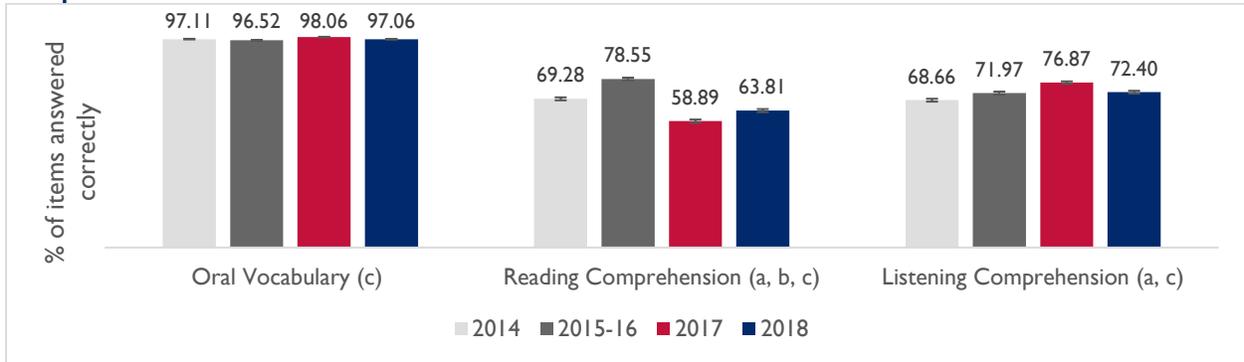
Figure 39: Kyrgyz Grade 4 Mean Scores by Year – Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



Subtasks marked with the letter “a” denotes differences between 2018 and 2014 are statistically significant at $p < 0.05$.

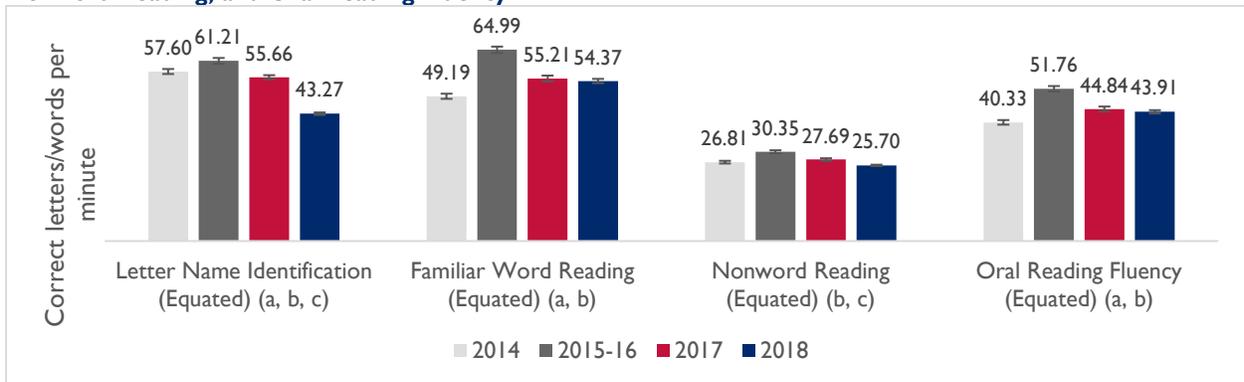
Subtasks marked with the letter “b” denotes differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.
 Subtasks marked with the letter “c” denotes differences between 2018 and 2017 are statistically significant at $p < 0.05$.

Figure 40: Kyrgyz Grade 4 Mean Scores by Year – Oral Vocabulary, Reading Comprehension, and Listening Comprehension



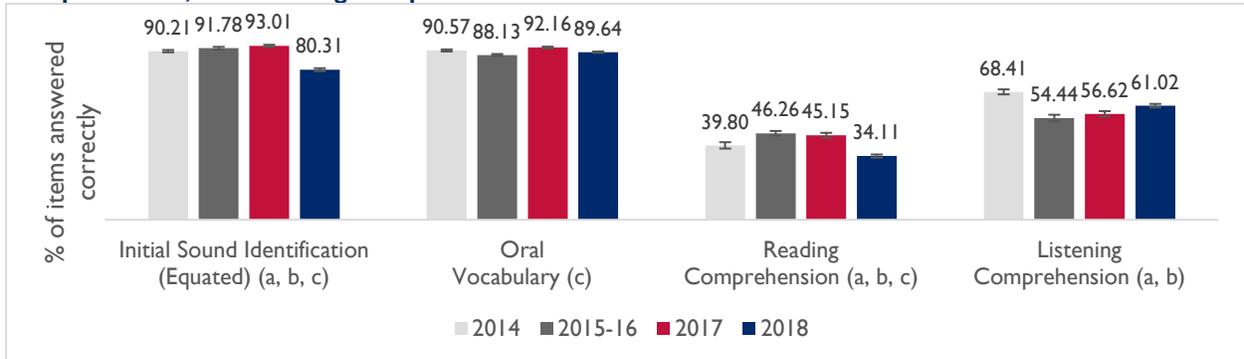
Subtasks marked with the letter “a” denotes differences between 2018 and 2014 are statistically significant at $p < 0.05$.
 Subtasks marked with the letter “b” denotes differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.
 Subtasks marked with the letter “c” denotes differences between 2018 and 2017 are statistically significant at $p < 0.05$.

Figure 41: Russian Grade 2 Mean Scores by Year – Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



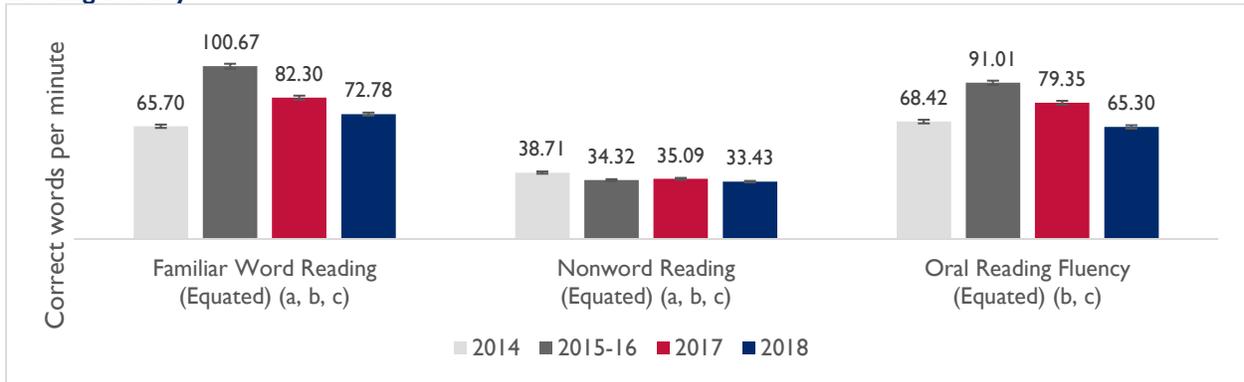
Subtasks marked with the letter “a” denotes differences between 2018 and 2014 are statistically significant at $p < 0.05$.
 Subtasks marked with the letter “b” denotes differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.
 Subtasks marked with the letter “c” denotes differences between 2018 and 2017 are statistically significant at $p < 0.05$.

Figure 42: Russian Grade 2 Mean Scores by Year – Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension



Subtasks marked with the letter “a” denotes differences between 2018 and 2014 are statistically significant at $p < 0.05$.
 Subtasks marked with the letter “b” denotes differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.
 Subtasks marked with the letter “c” denotes differences between 2018 and 2017 are statistically significant at $p < 0.05$.

Figure 43: Russian Grade 4 Mean Scores by Year – Familiar Word Reading, Nonword Reading, and Oral Reading Fluency

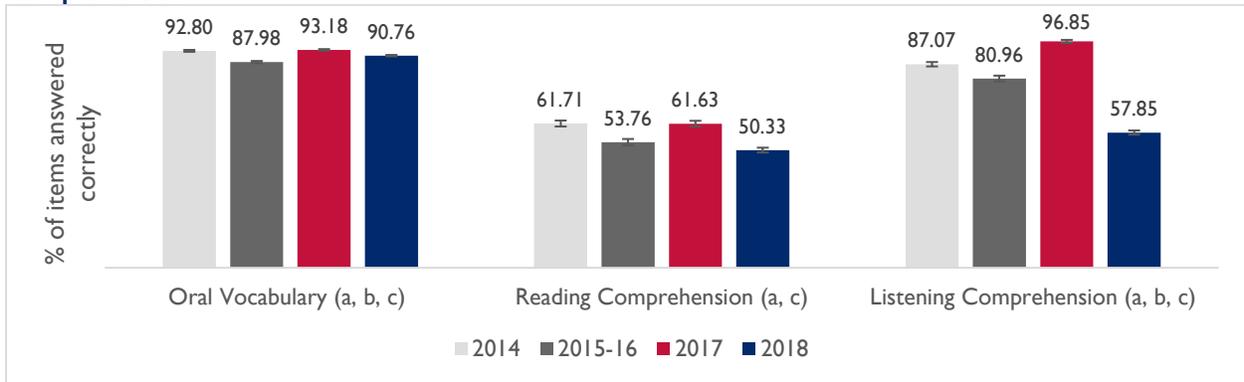


^a Differences between 2018 and 2014 are statistically significant at $p < 0.05$.

^b Differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.

^c Differences between 2018 and 2017 are statistically significant at $p < 0.05$

Figure 44: Russian Grade 4 Mean Scores by Year – Oral Vocabulary, Reading Comprehension, and Listening Comprehension

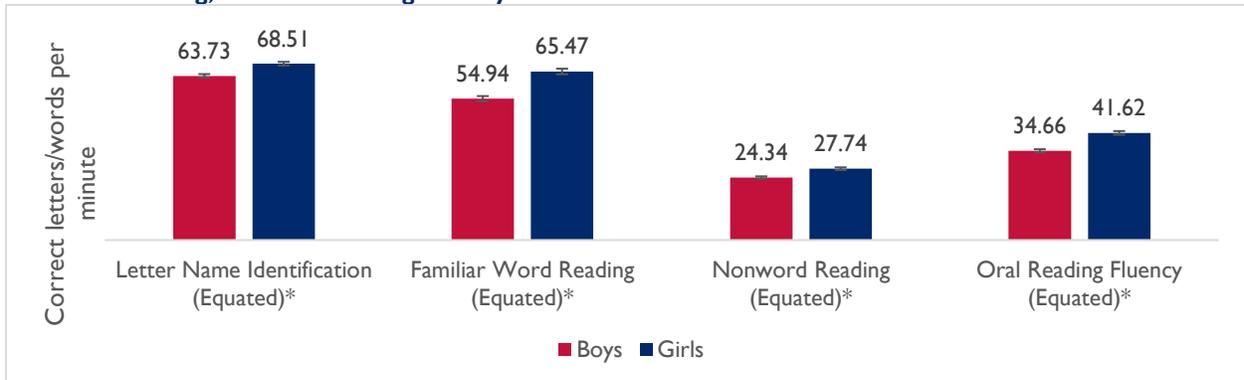


^a Differences between 2018 and 2014 are statistically significant at $p < 0.05$.

^b Differences between 2018 and 2015-16 are statistically significant at $p < 0.05$.

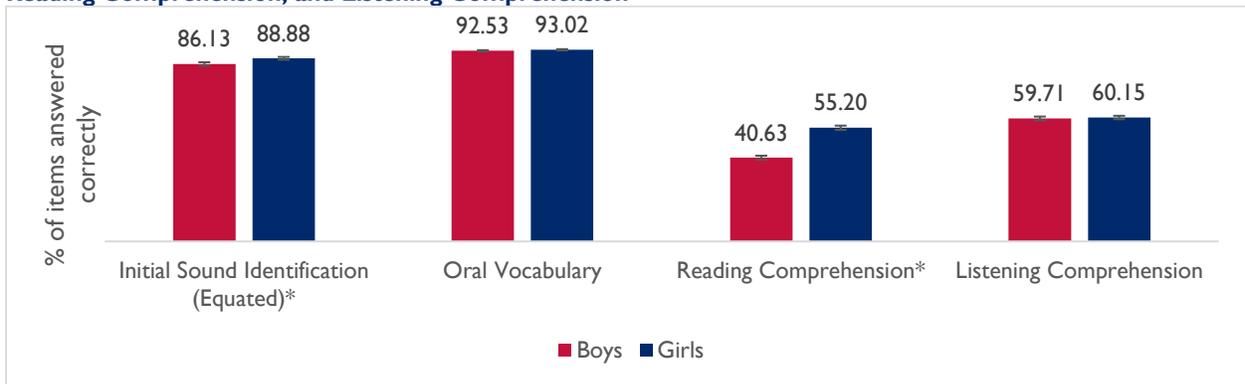
^c Differences between 2018 and 2017 are statistically significant at $p < 0.05$

Figure 45: 2018 Kyrgyz Grade 2 Mean Scores by Gender – Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



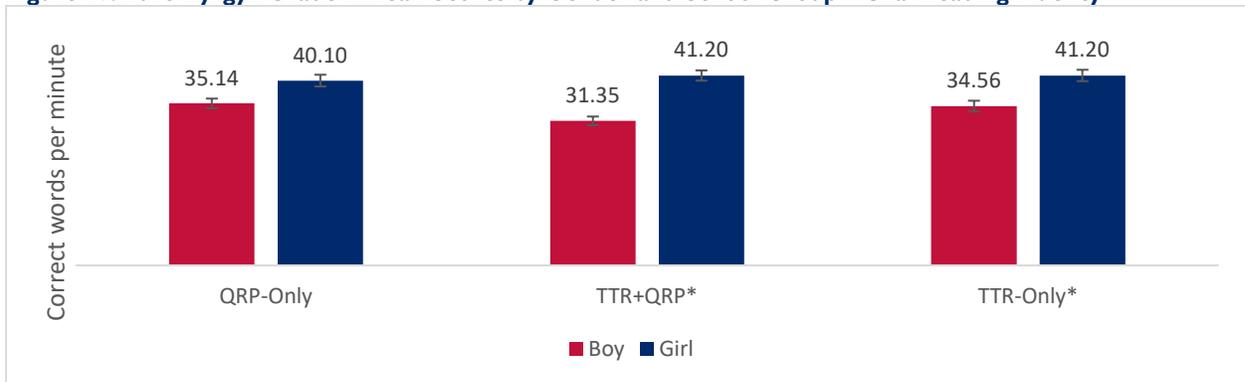
An asterisk (*) denotes differences between boys and girls mean scores are statistically significant at $p < 0.05$.

Figure 46: 2018 Kyrgyz Grade 2 Mean Scores by Gender – Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension



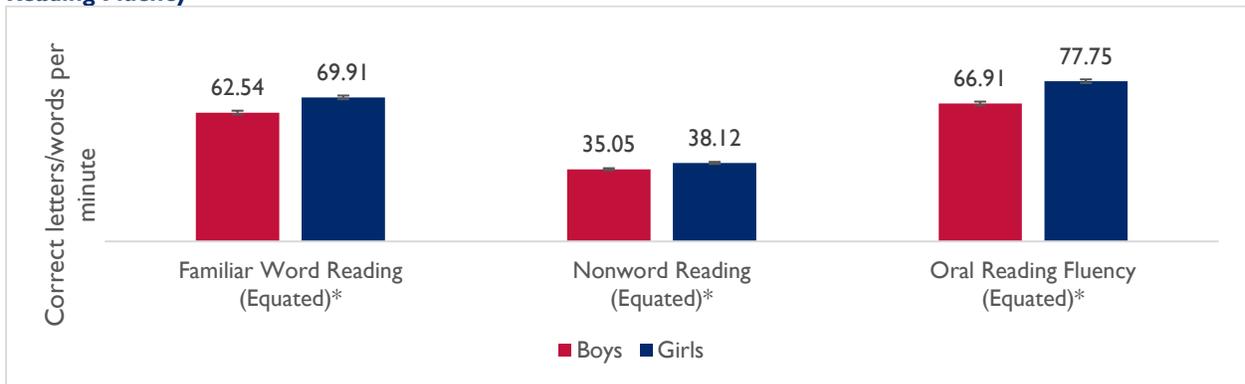
*Differences between boys and girls mean scores are statistically significant at $p < 0.05$.

Figure 47: 2018 Kyrgyz Grade 2 Mean Scores by Gender and School Group – Oral Reading Fluency



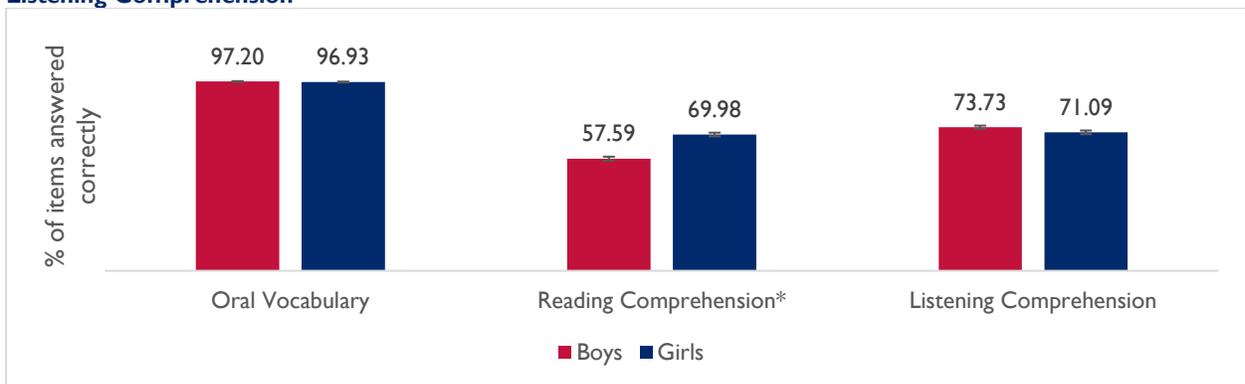
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 48: 2018 Kyrgyz Grade 4 Mean Scores by Gender – Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



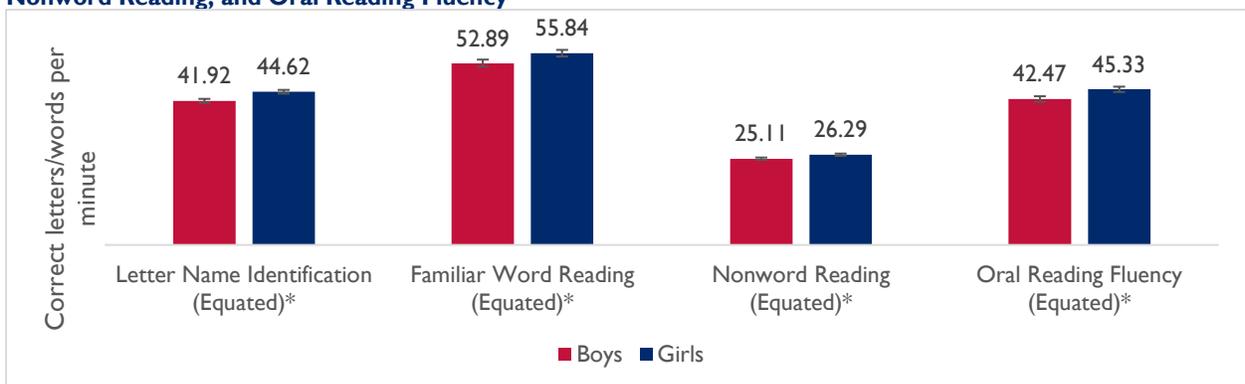
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 49: 2018 Kyrgyz Grade 4 Mean Scores by Gender – Oral Vocabulary, Reading Comprehension, and Listening Comprehension



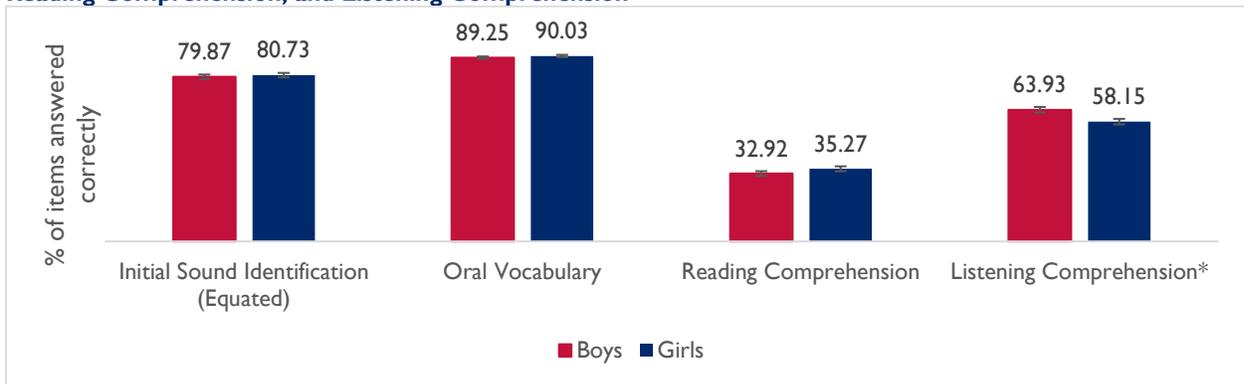
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 50: 2018 Russian Grade 2 Mean Scores by Gender – Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



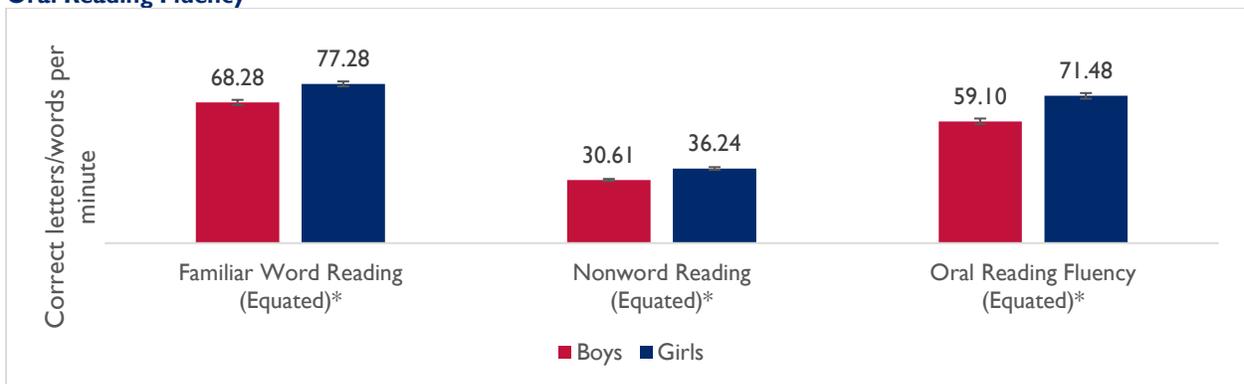
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 51: 2018 Russian Grade 2 Mean Scores by Gender – Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension



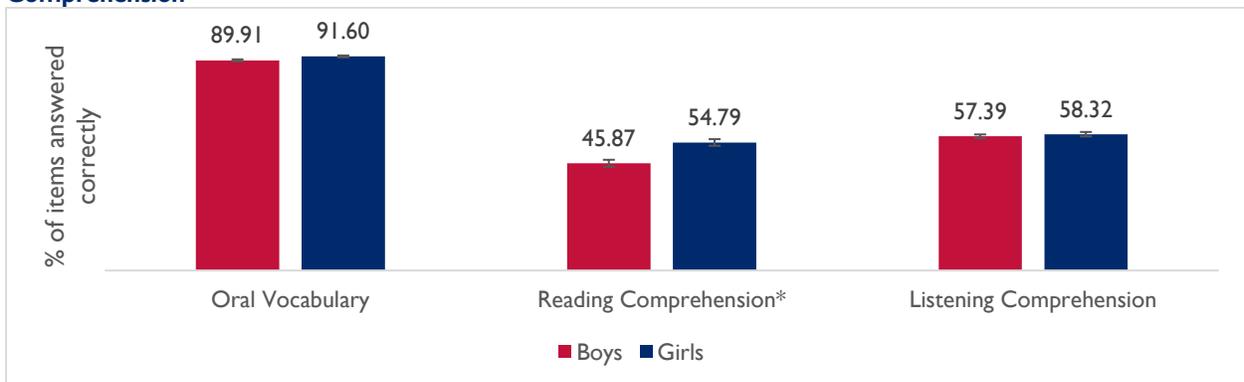
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 52: 2018 Russian Grade 4 Mean Scores by Gender – Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



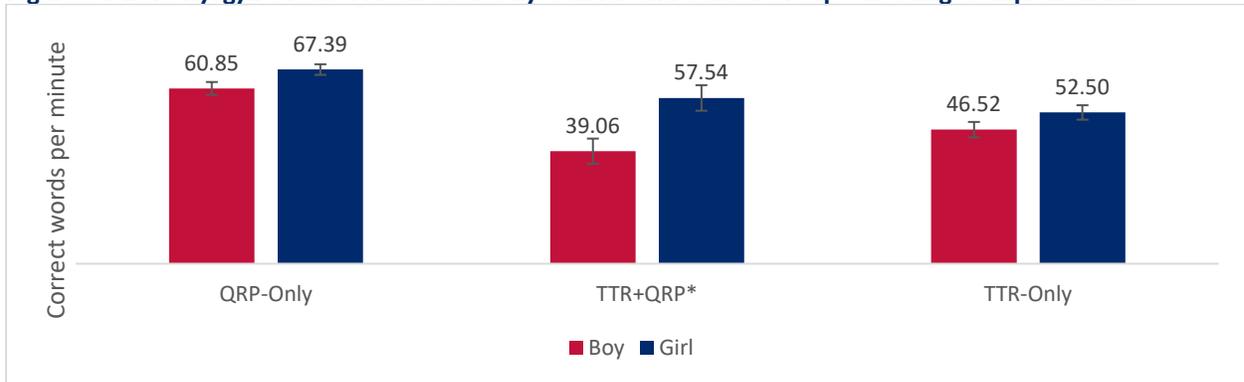
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 53: 2018 Russian 4 Mean Scores by Gender – Oral Vocabulary, Reading Comprehension, and Listening Comprehension



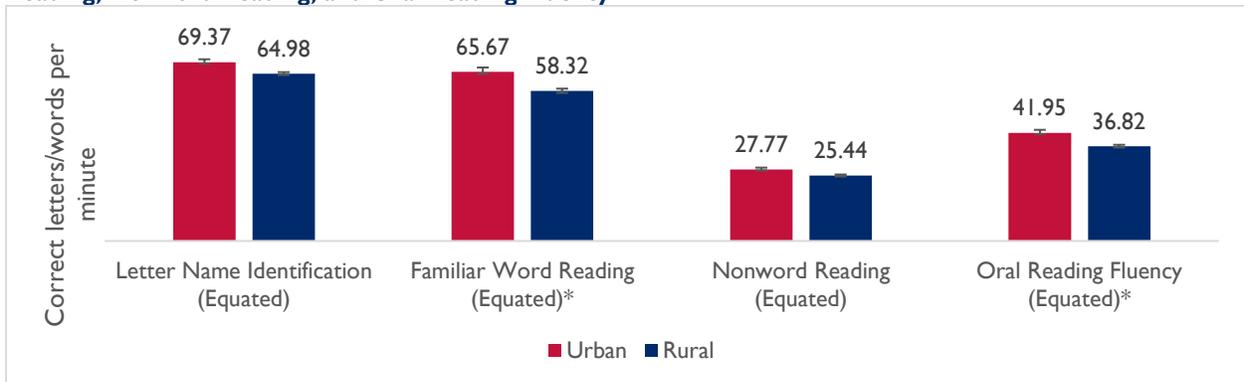
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 54: 2018 Kyrgyz Grade 4 Mean Scores by Gender and School Group – Reading Comprehension



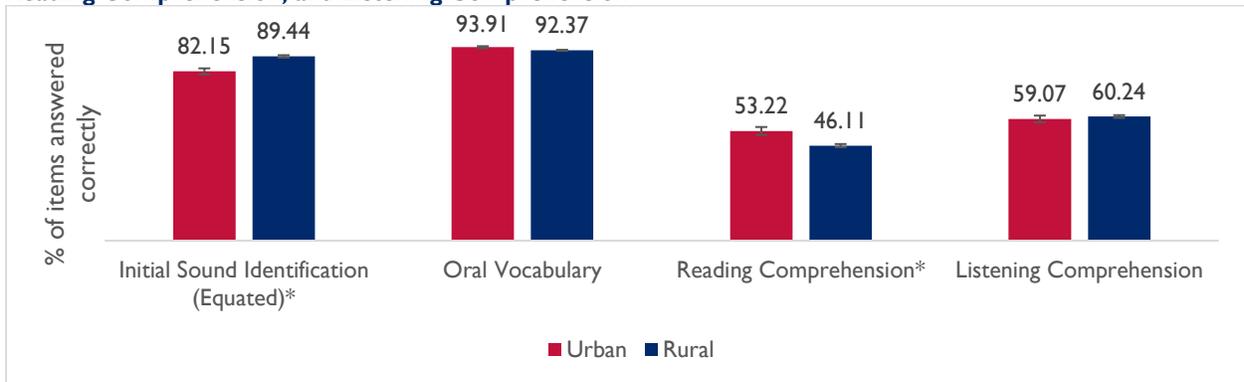
*Differences between boys and girls are statistically significant at $p < 0.05$.

Figure 55: 2018 Kyrgyz Grade 2 Mean Scores by Location – Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



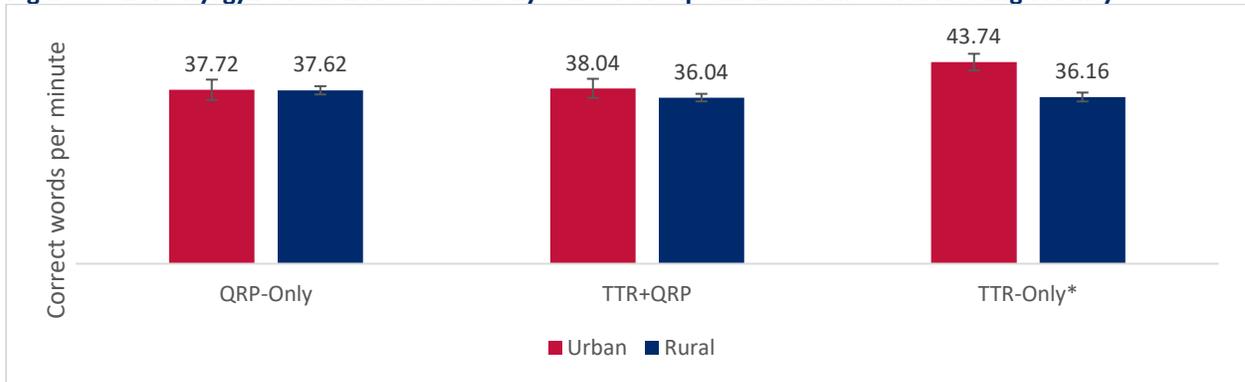
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 56: 2018 Kyrgyz Grade 2 Mean Scores by Location – Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension



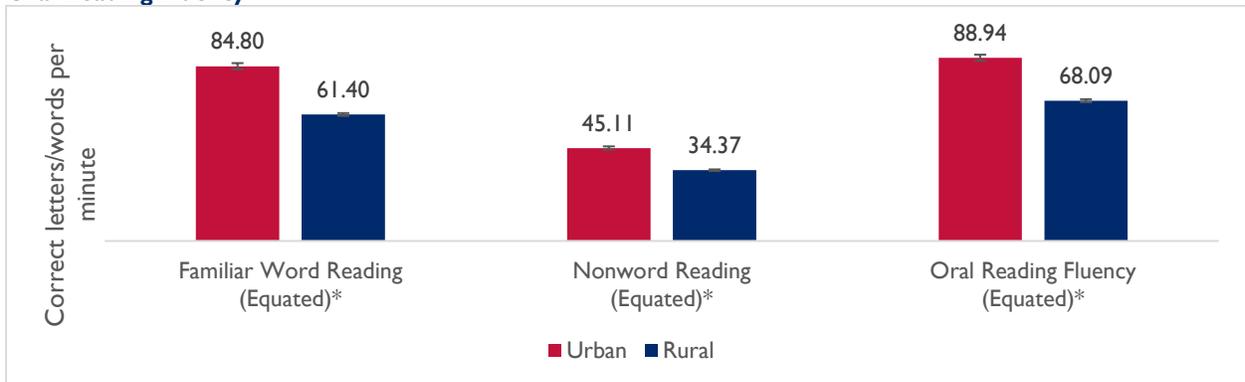
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 57: 2018 Kyrgyz Grade 2 Mean Scores by School Group and Location – Oral Reading Fluency



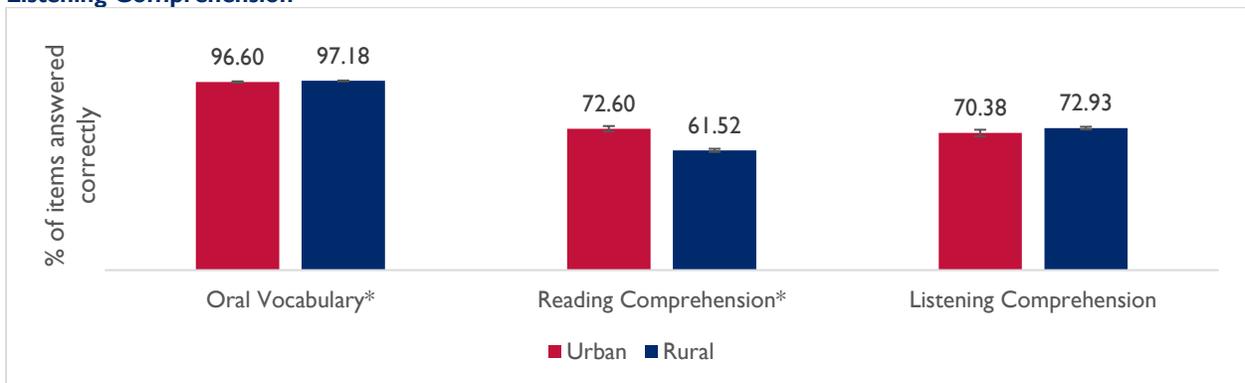
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 58: 2018 Kyrgyz Grade 4 Mean Scores by Location – Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



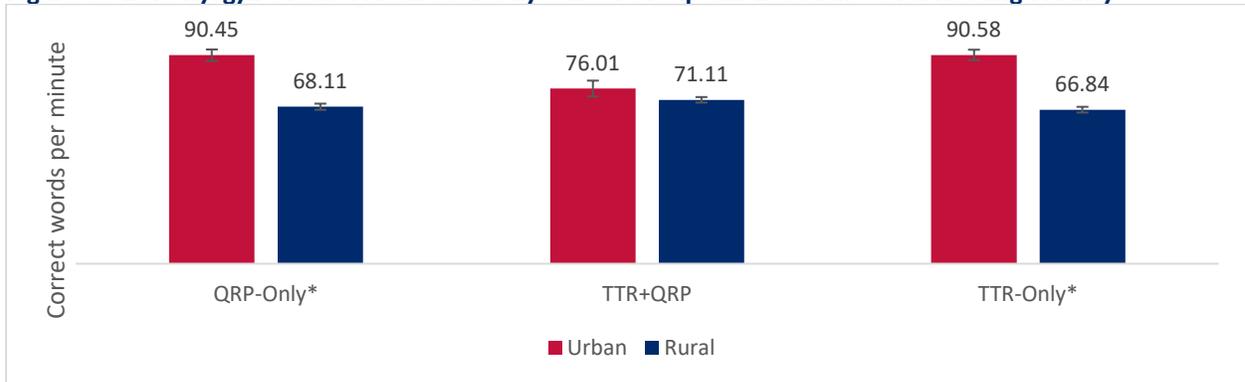
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 59: 2018 Kyrgyz Grade 4 Mean Scores by Location – Oral Vocabulary, Reading Comprehension, and Listening Comprehension



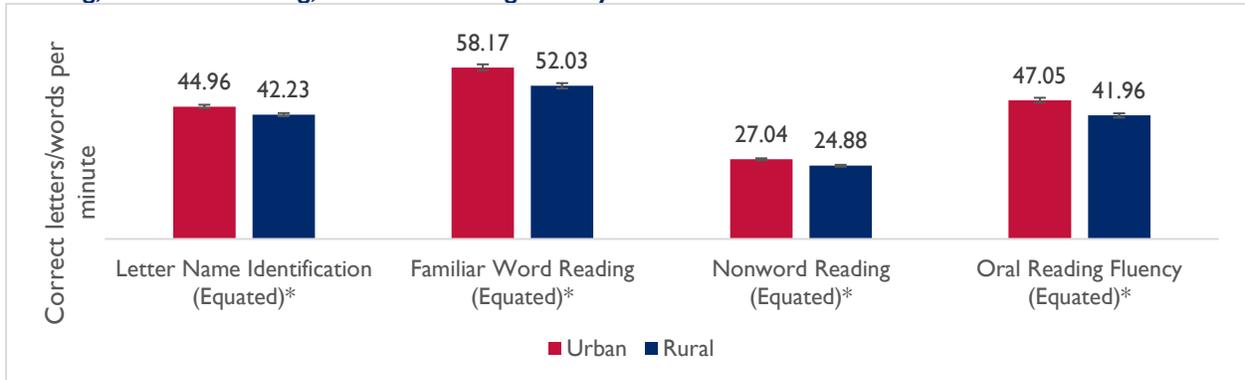
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 60: 2018 Kyrgyz Grade 4 Mean Scores by School Group and Location – Oral Reading Fluency



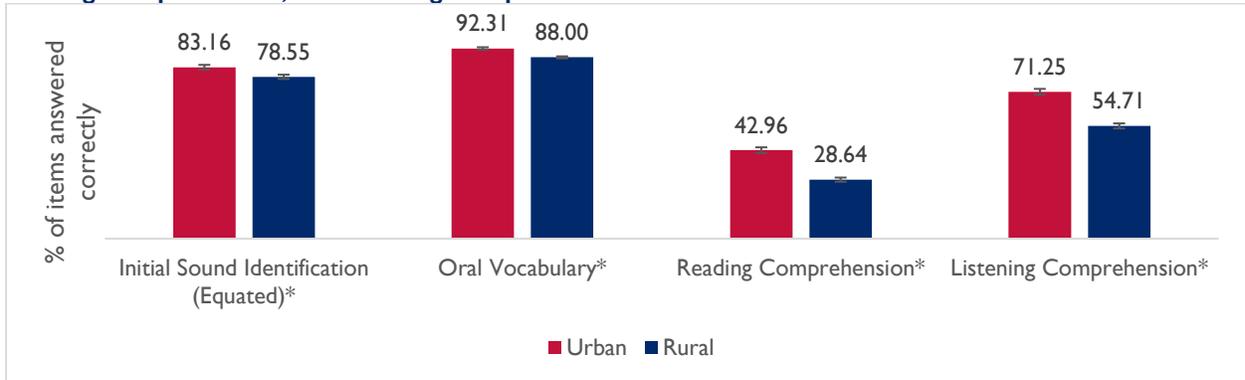
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 61: 2018 Russian Grade 2 Mean Scores by Location – Letter Name Identification, Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



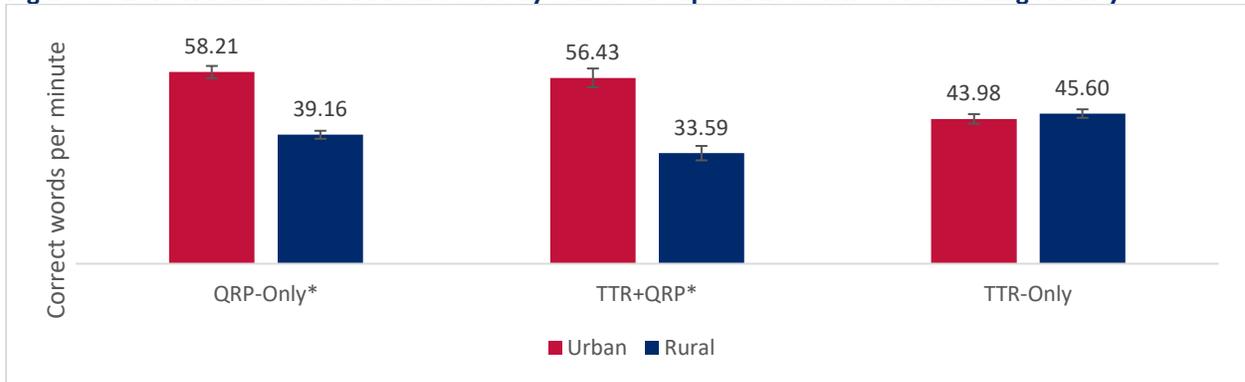
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 62: 2018 Russian Grade 2 Mean Scores by Location – Initial Sound Identification, Oral Vocabulary, Reading Comprehension, and Listening Comprehension



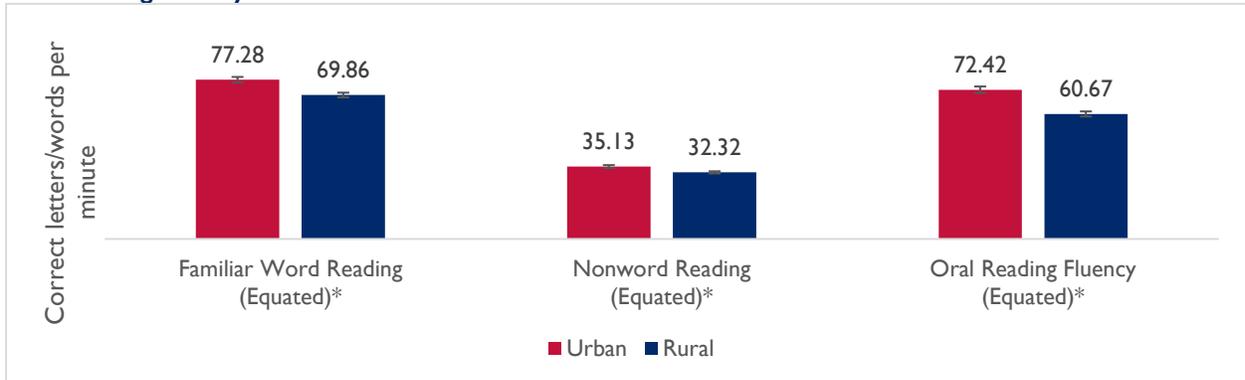
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 63: 2018 Russian Grade 2 Mean Scores by School Group and Location – Oral Reading Fluency



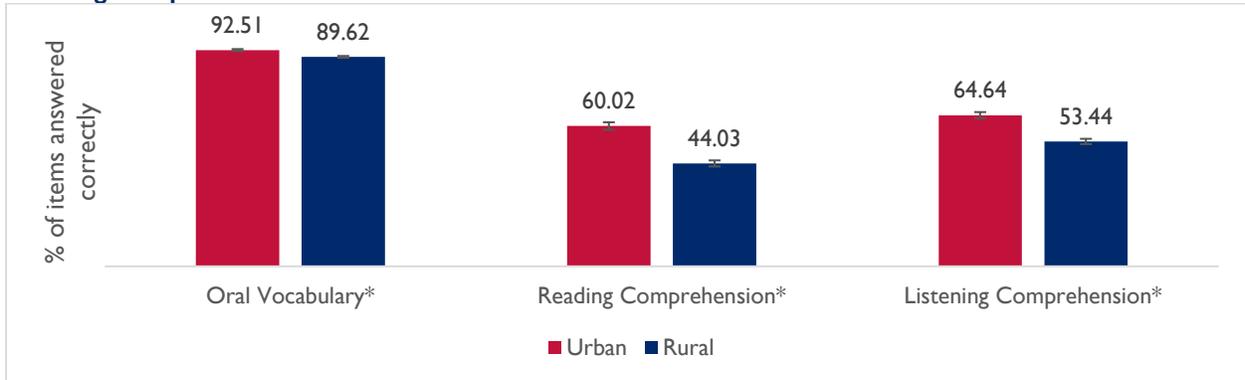
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 64: 2018 Russian Grade 4 Mean Scores by Location – Familiar Word Reading, Nonword Reading, and Oral Reading Fluency



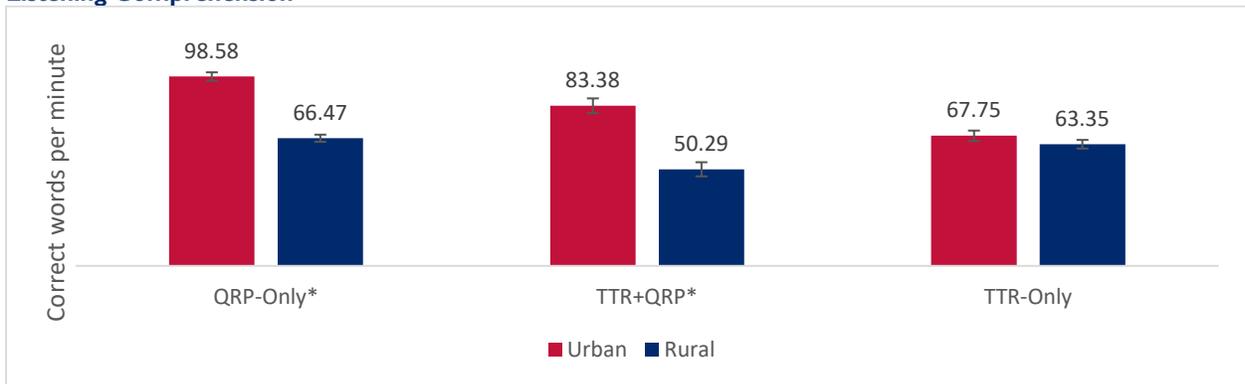
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 65: 2018 Russian Grade 4 Mean Scores by Location – Oral Vocabulary, Reading Comprehension, and Listening Comprehension



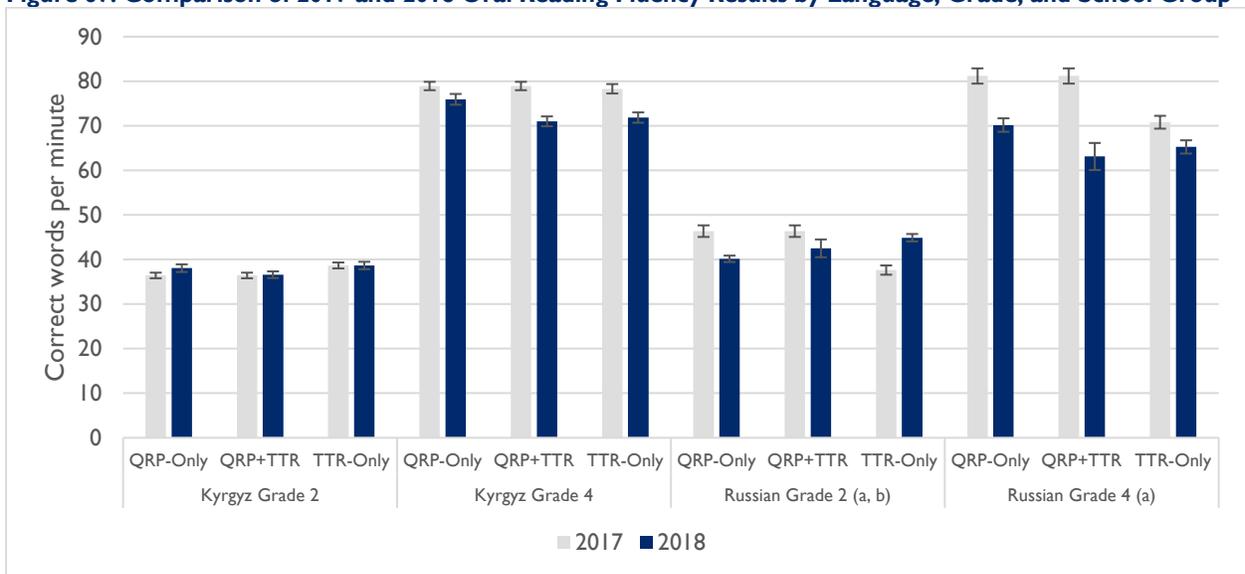
*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 66: 2018 Russian Grade 4 Mean Scores by Location – Oral Vocabulary, Reading Comprehension, and Listening Comprehension



*Differences between urban and rural students are statistically significant at $p < 0.05$.

Figure 67: Comparison of 2017 and 2018 Oral Reading Fluency Results by Language, Grade, and School Group



^a Year-on-year differences for the TTR-only group were significantly better than those for the QRP-only group at $p < 0.05$.

^b Year-on-year differences for the TTR-only group were significantly better than those for the QRP+TTR group at $p < 0.05$.

Figure 68: Kyrgyz Grade 2 Baseline vs. Midline Fluency Benchmark Results

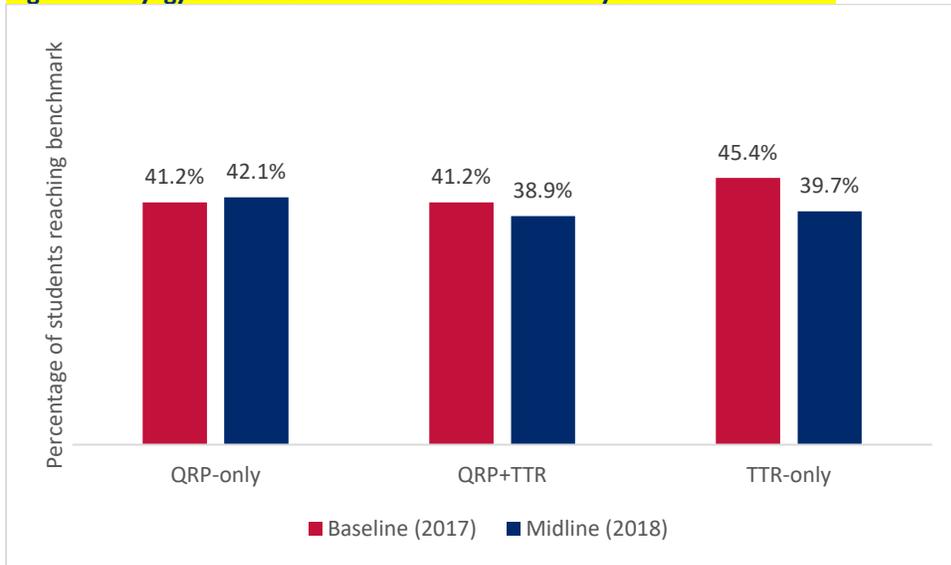


Figure 69: Kyrgyz Grade 2 Baseline vs. Midline Reading Comprehension Benchmark Results

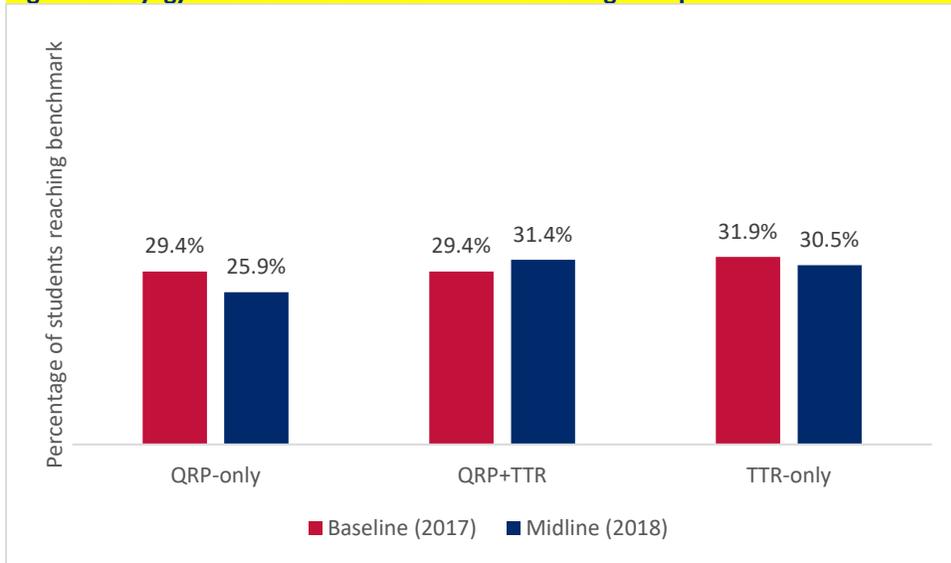


Figure 70: Kyrgyz Grade 4 Baseline vs. Midline Fluency Benchmark Results

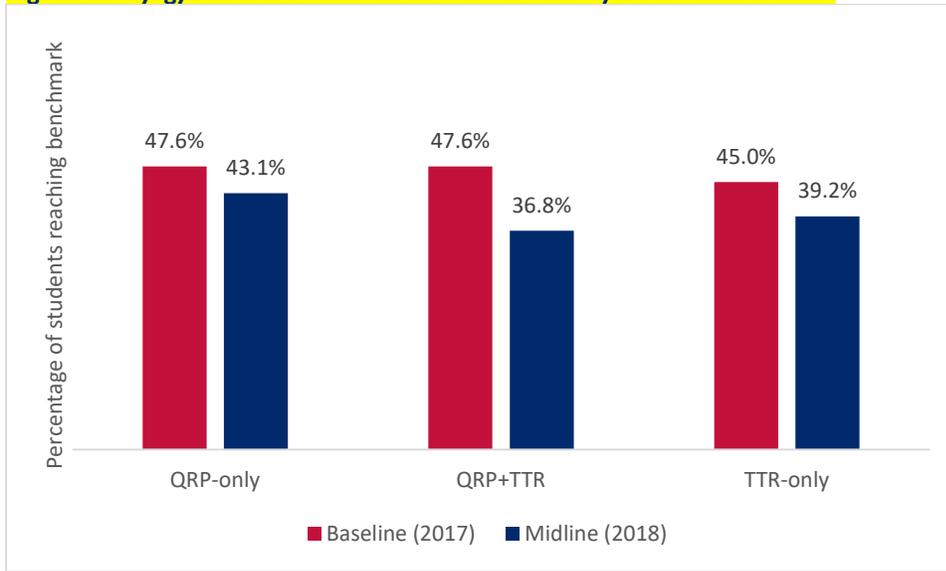


Figure 71: Kyrgyz Grade 4 Baseline vs. Midline Reading Comprehension Benchmark Results

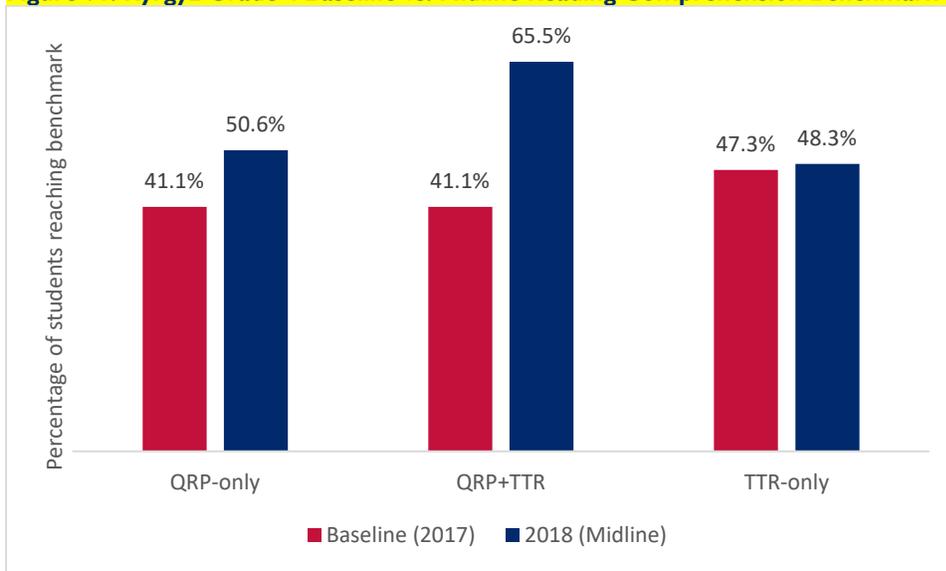


Figure 72: Russian Grade 2 Baseline vs. Midline Fluency Benchmark Results

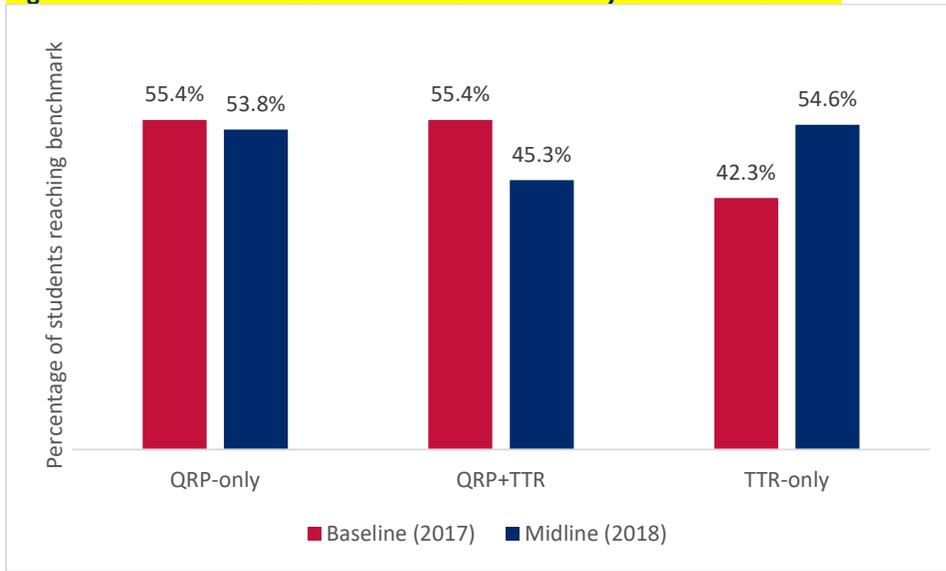


Figure 73: Russian Grade 2 Baseline vs. Midline Reading Comprehension Benchmark Results

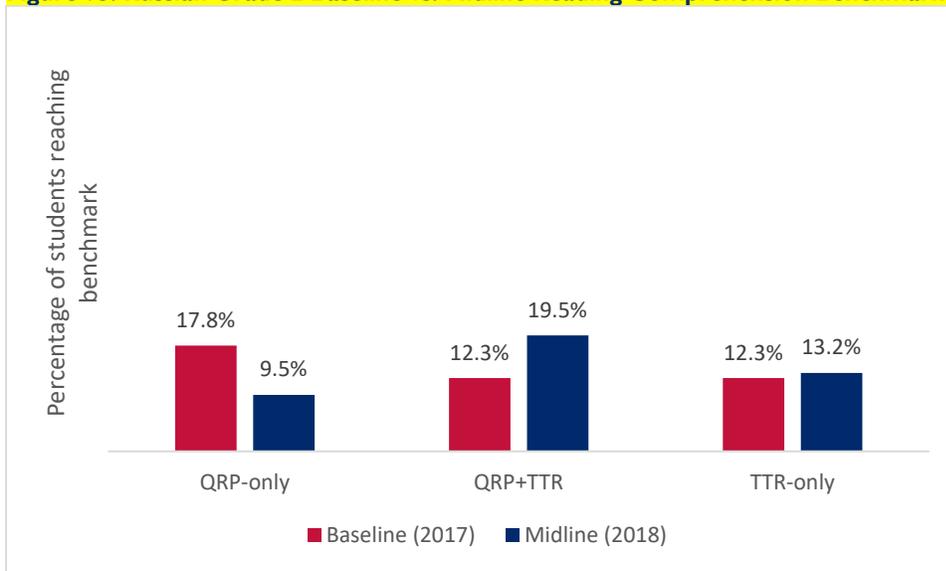


Figure 74: Russian Grade 4 Baseline vs. Midline Fluency Benchmark Results

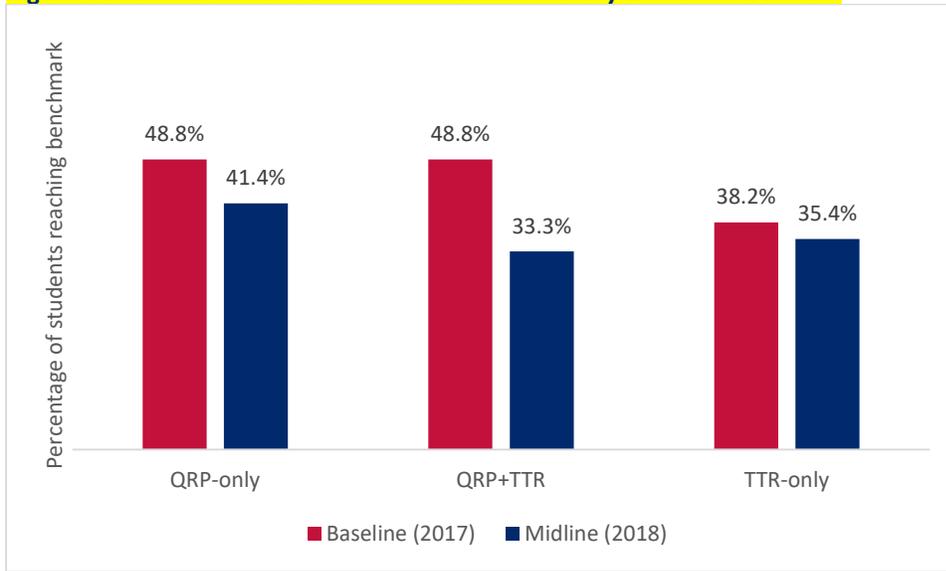
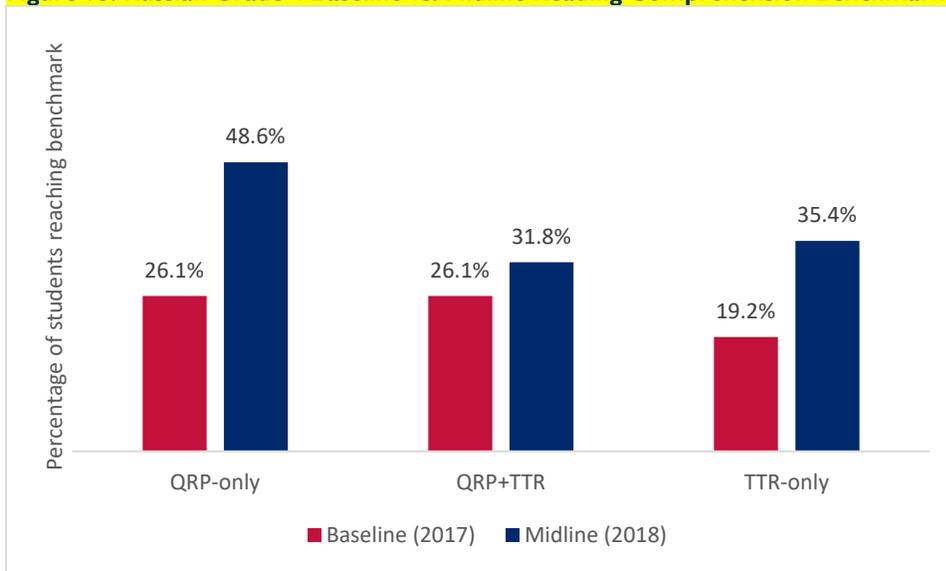


Figure 75: Russian Grade 4 Baseline vs. Midline Reading Comprehension Benchmark Results



Annex I: Detailed EGRA results tables

Table 38: Kyrgyz Grade 2 National EGRA Mean Scores by Year

Subtask	2014			2015-2016			2017			2018		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	1600	60.52	0.51	1744	68.40	0.45	1907	67.65	0.43	1654	66.14	0.50
Initial sound identification	1600	89.90	0.31	1747	94.65	0.25	1916	95.71	0.18	1654	87.52	0.54
Familiar word reading	1600	50.44	0.68	1744	57.62	0.67	1913	57.93	0.69	1654	60.25	0.74
Nonword reading	1600	24.21	0.35	1720	26.81	0.30	1863	25.84	0.30	1654	26.05	0.33
Oral vocabulary	1600	92.01	0.27	1747	90.81	0.27	1916	93.58	0.20	1654	92.78	0.22
Oral reading fluency	1600	32.21	0.46	1745	36.57	0.45	1901	36.81	0.45	1653	38.17	0.48
Reading comprehension	1600	53.22	0.82	1747	54.47	0.76	1916	67.37	0.67	1654	47.99	0.74
Listening comprehension	1600	74.82	0.66	1747	71.12	0.62	1916	63.25	0.59	1654	59.93	0.62

Table 39: Kyrgyz Grade 4 National EGRA Mean Scores by Year

Subtask	2014			2015-2016			2017			2018		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	1677	71.34	0.72	1778	89.28	0.79	1892	85.55	0.72	1622	66.24	0.65
Nonword reading	1677	31.20	0.39	1775	31.31	0.36	1890	34.75	0.33	1622	36.59	0.35
Oral vocabulary	1677	97.11	0.14	1778	96.52	0.17	1898	98.06	0.12	1622	97.06	0.15
Oral reading fluency	1677	68.31	0.70	1773	81.01	0.73	1893	78.83	0.69	1614	72.33	0.68
Reading comprehension	1677	69.28	0.70	1778	78.55	0.60	1898	58.89	0.74	1622	63.81	0.71
Listening comprehension	1677	68.66	0.67	1778	71.97	0.68	1898	76.87	0.54	1622	72.40	0.64

Table 40: Russian Grade 2 National EGRA Mean Scores by Year

Subtask	2014			2015-2016			2017			2018		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	601	57.60	0.85	623	61.21	0.99	637	55.66	0.70	1180	43.27	0.41
Initial sound identification	601	90.21	0.63	624	91.78	0.71	646	93.01	0.61	1182	80.31	0.78
Familiar word reading	601	49.19	0.87	624	64.99	1.07	639	55.21	1.01	1182	54.37	0.73

Subtask	2014			2015-2016			2017			2018		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Nonword reading	601	26.81	0.46	624	30.35	0.49	640	27.69	0.44	1182	25.70	0.24
Oral vocabulary	601	90.57	0.55	620	88.13	0.54	646	92.16	0.45	1182	89.64	0.38
Oral reading fluency	601	40.33	0.78	620	51.76	0.90	641	44.84	0.86	1180	43.91	0.57
Reading comprehension	601	39.80	1.70	624	46.26	1.25	646	45.15	1.38	1182	34.11	0.84
Listening comprehension	601	68.41	1.34	620	54.44	1.75	646	56.62	1.49	1182	61.02	0.96

Table 41: Russian Grade 4 National EGRA Mean Scores by Year

Subtask	2014			2015-2016			2017			2018		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	572	65.70	0.97	608	100.67	1.43	646	82.30	1.23	1167	72.78	0.88
Nonword reading	572	38.71	0.65	608	34.32	0.55	636	35.09	0.52	1169	33.43	0.43
Oral vocabulary	572	92.80	0.40	608	87.98	0.48	646	93.18	0.36	1169	90.76	0.30
Oral reading fluency	572	68.42	1.06	602	91.01	1.25	642	79.35	1.14	1169	65.30	0.99
Reading comprehension	572	61.71	1.27	608	53.76	1.33	646	61.63	1.24	1169	50.33	1.04
Listening comprehension	572	87.07	0.94	608	80.96	1.23	646	96.85	0.64	1169	57.85	0.88

Table 42: Kyrgyz Grade 2 National EGRA Zero Scores by Year

Subtask	2014		2015-2016		2017		2018	
	N	%	N	%	N	%	N	%
Letter name identification	1600	0.0%	1747	0.2%	1916	0.2%	1654	0.1%
Initial sound identification	1600	0.1%	1747	0.1%	1916	0.1%	1654	1.5%
Familiar word reading	1600	0.1%	1747	1.0%	1916	0.9%	1654	0.1%
Nonword reading	1600	0.2%	1747	2.0%	1916	2.9%	1654	1.8%
Oral vocabulary	1600	0.1%	1747	0.0%	1916	0.0%	1654	0.0%
Oral reading fluency	1600	0.6%	1745	1.2%	1916	1.6%	1653	0.6%
Reading comprehension	1600	14.7%	1747	11.9%	1916	6.3%	1654	8.9%
Listening comprehension	1600	2.8%	1747	4.9%	1916	10.0%	1654	3.1%

Table 43: Kyrgyz Grade 4 National EGRA Zero Scores by Year

Subtask	2014		2015-2016		2017		2018	
	N	%	N	%	N	%	N	%
Familiar word reading	1677	0.1%	1778	0.2%	1898	0.3%	1622	0.0%
Nonword reading	1677	0.1%	1778	0.5%	1898	1.0%	1622	0.0%
Oral vocabulary	1677	0.0%	1778	0.1%	1898	0.1%	1622	0.0%
Oral reading fluency	1677	0.1%	1778	0.4%	1898	0.3%	1622	0.5%
Reading comprehension	1677	2.5%	1778	1.7%	1898	10.5%	1622	6.8%
Listening comprehension	1677	2.6%	1778	4.7%	1898	1.1%	1622	0.7%

Table 44: Russian Grade 2 National EGRA Zero Scores by Year

Subtask	2014		2015-2016		2017		2018	
	N	%	N	%	N	%	N	%
Letter name identification	601	0.0%	624	4.0%	646	0.9%	1182	0.5%
Initial sound identification	601	0.2%	624	0.6%	646	0.8%	1182	0.9%
Familiar word reading	601	0.3%	624	1.1%	646	0.6%	1182	0.5%
Nonword reading	601	0.5%	624	2.1%	646	10.6%	1182	2.0%
Oral vocabulary	601	0.0%	624	0.2%	646	0.0%	1182	0.2%
Oral reading fluency	601	0.3%	624	1.4%	646	0.6%	1182	0.2%
Reading comprehension	601	45.4%	624	18.0%	646	26.9%	1182	22.3%
Listening comprehension	601	6.3%	624	27.6%	646	16.6%	1182	9.7%

Table 45: Russian Grade 4 National EGRA Zero Scores by Year

Subtask	2014		2015-2016		2017		2018	
	N	%	N	%	N	%	N	%
Familiar word reading	572	0.0%	608	0.5%	646	0.8%	1169	0.1%
Nonword reading	572	0.0%	608	1.6%	646	1.2%	1169	0.5%
Oral vocabulary	572	0.0%	608	0.0%	646	0.0%	1169	0.0%
Oral reading fluency	572	0.0%	608	2.0%	646	0.8%	1169	0.2%
Reading comprehension	572	7.3%	608	14.3%	646	14.2%	1169	15.7%

Subtask	2014		2015-2016		2017		2018	
	N	%	N	%	N	%	N	%
Listening comprehension	572	0.7%	608	8.6%	646	2.5%	1169	5.5%

Table 46: Kyrgyz Grade 2 National EGRA Grade-Level Fluency and Comprehension Proficiency by Year

Subtask	Benchmarks	2014		2015-2016		2017		2018	
		N	%	N	%	N	%	N	%
Oral reading fluency	40 CWPM	1600	31.0%	1747	38.0%	1916	42.0%	1654	40.2%
Reading comprehension	80%	1600	17.8%	1747	18.3%	1916	29.9%	1654	29.4%

Table 47: Kyrgyz Grade 4 National EGRA Grade-Level Fluency and Comprehension Proficiency by Year

Subtask	Benchmarks	2014		2015-2016		2017		2018	
		N	%	N	%	N	%	N	%
Oral reading fluency	80 CWPM	1677	35.1%	1778	50.3%	1898	47.2%	1622	39.4%
Reading comprehension	80%	1677	55.8%	1778	71.0%	1898	42.3%	1622	51.2%

Table 48: Russian Grade 2 National EGRA Grade-Level Fluency and Comprehension Proficiency by Year

Subtask	Benchmarks	2014		2015-2016		2017		2018	
		N	%	N	%	N	%	N	%
Oral reading fluency	40 CWPM	601	48.8%	624	70.5%	646	53.1%	1182	52.4%
Reading comprehension	80%	601	25.0%	624	26.0%	646	16.7%	1182	14.3%

Table 49: Russian Grade 4 National EGRA Grade-Level Fluency and Comprehension Proficiency by Year

Subtask	Benchmarks	2014		2015-2016		2017		2018	
		N	%	N	%	N	%	N	%
Oral reading fluency	80 CWPM	572	30.1%	608	50.8%	646	41.6%	1169	34.8%
Reading comprehension	80%	34.82%	25.4%	608	22.9%	646	22.5%	1169	37.1%

Table 50: Kyrgyz Grade 2 2018 Mean Scores by School Group

Subtask	QRP-only			QRP+TTR			TTR-only		
	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	561	65.00	0.88	529	67.12	0.83	564	66.42	0.87
Initial sound identification	561	88.62	0.86	529	92.75	0.77	564	85.54	1.00
Familiar word reading	561	60.69	1.31	529	58.08	1.27	564	60.66	1.26
Nonword reading	561	25.42	0.57	529	25.98	0.60	564	26.38	0.56
Oral vocabulary	561	92.24	0.40	529	95.11	0.30	564	92.39	0.39
Oral reading fluency	560	38.06	0.86	529	36.59	0.75	564	38.67	0.83
Reading comprehension	561	45.49	1.29	529	49.62	1.38	564	48.72	1.23
Listening comprehension	561	56.59	1.09	529	61.03	0.94	564	61.21	1.09

Table 51: Kyrgyz Grade 4 2018 Mean Scores by School Group

Subtask	QRP-only			QRP+TTR			TTR-only		
	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	550	75.48	1.35	519	62.91	0.98	553	64.98	1.09
Nonword reading	550	38.59	0.68	519	34.30	0.51	553	36.66	0.60
Oral vocabulary	550	96.48	0.25	519	99.37	0.12	553	96.68	0.29
Oral reading fluency	533	75.95	1.21	519	71.01	1.11	553	71.86	1.16
Reading comprehension	550	63.53	1.21	519	75.38	1.17	553	61.34	1.21
Listening comprehension	550	64.71	1.07	519	85.30	0.98	553	71.24	1.08

Table 52: Russian Grade 2 2018 Mean Scores by School Group

Subtask	QRP-only			QRP+TTR			TTR-only		
	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	548	39.91	0.63	128	41.09	1.32	505	44.48	0.61
Initial sound identification	548	79.97	1.12	128	76.45	2.68	506	81.65	1.14
Familiar word reading	548	50.85	0.97	128	51.49	2.46	506	55.84	1.07
Nonword reading	548	24.44	0.36	128	24.72	0.81	506	26.21	0.34

Subtask	QRP-only			QRP+TTR			TTR-only		
	N	Mean	SE	N	Mean	SE	N	Mean	SE
Oral vocabulary	548	92.98	0.33	128	87.58	1.27	506	89.87	0.58
Oral reading fluency	548	40.16	0.72	128	42.51	2.00	505	44.90	0.83
Reading comprehension	548	32.90	1.14	128	35.63	2.84	506	33.76	1.25
Listening comprehension	548	68.92	1.08	128	59.53	3.21	506	60.42	1.46

Table 53: Russian Grade 4 2018 Mean Scores by School Group

Subtask	QRP-only			QRP+TTR			TTR-only		
	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	543	75.49	1.38	129	68.59	2.59	496	73.79	1.33
Nonword reading	543	32.34	0.64	129	31.92	1.26	497	34.12	0.67
Oral vocabulary	543	91.23	0.43	129	89.84	1.03	497	90.99	0.44
Oral reading fluency	543	70.18	1.51	129	63.12	3.04	497	65.27	1.49
Reading comprehension	543	59.33	1.45	129	48.37	3.21	497	49.55	1.59
Listening comprehension	543	67.79	0.97	129	56.74	2.80	497	56.62	1.37

Table 54: Kyrgyz Grade 2 2018 Zero Scores by School Group

Subtask	QRP-only		QRP+TTR		TTR-only	
	N	%	N	%	N	%
Letter name identification	561	0.2%	529	0.0%	564	0.0%
Initial sound identification	561	0.5%	529	0.2%	564	1.8%
Familiar word reading	561	0.4%	529	0.0%	564	0.0%
Nonword reading	560	3.0%	529	0.2%	564	1.6%
Oral vocabulary	561	0.0%	529	0.0%	564	0.0%
Oral reading fluency	560	2.1%	529	0.0%	563	0.0%
Reading comprehension	561	13.4%	529	9.8%	564	6.4%
Listening comprehension	561	5.9%	529	1.1%	564	2.5%

Table 55: Kyrgyz Grade 4 2018 Zero Scores by School Group

Subtask	QRP-only		QRP+TTR		TTR-only	
	N	%	N	%	N	%
Familiar word reading	550	0.0%	519	0.0%	553	0.0%
Nonword reading	550	0.0%	519	0.0%	553	0.0%
Oral vocabulary	550	0.0%	519	0.0%	553	0.0%
Oral reading fluency	533	0.0%	519	0.2%	553	0.7%
Reading comprehension	550	5.5%	519	3.7%	553	7.8%
Listening comprehension	550	1.3%	519	0.4%	553	0.7%

Table 56: Russian Grade 2 2018 Zero Scores by School Group

Subtask	QRP-only		QRP+TTR		TTR-only	
	N	%	N	%	N	%
Letter name identification	548	0.2%	128	0.0%	505	0.8%
Initial sound identification	548	0.0%	128	0.8%	506	1.0%
Familiar word reading	548	0.0%	128	1.6%	506	0.2%
Nonword reading	548	0.6%	128	3.9%	506	1.6%
Oral vocabulary	548	0.0%	128	0.0%	506	0.2%
Oral reading fluency	548	0.0%	128	0.0%	504	0.2%
Reading comprehension	548	19.3%	128	25.8%	506	21.5%
Listening comprehension	548	2.4%	128	14.1%	506	9.3%

Table 57: Russian Grade 4 2018 Zero Scores by School Group

Subtask	QRP-only		QRP+TTR		TTR-only	
	N	%	N	%	N	%
Familiar word reading	543	0.0%	129	0.0%	496	0.0%
Nonword reading	543	0.0%	129	0.8%	497	0.2%
Oral vocabulary	543	0.0%	129	0.0%	497	0.0%
Oral reading fluency	543	0.0%	129	0.0%	497	0.0%
Reading comprehension	543	13.8%	129	22.5%	497	18.7%

Subtask	QRP-only		QRP+TTR		TTR-only	
	N	%	N	%	N	%
Listening comprehension	543	0.7%	129	10.1%	497	8.9%

Table 58: Kyrgyz Grade 2 2018 Grade-Level Fluency and Comprehension Proficiency by School Group

Subtask	Benchmarks	QRP-only		QRP+TTR		TTR-only	
		N	%	N	%	N	%
Oral reading fluency	40 CWPM	561	42.1%	529	38.9%	564	39.7%
Reading comprehension	80%	561	25.9%	529	31.4%	564	30.5%

Table 59: Kyrgyz Grade 4 2018 Grade-Level Fluency and Comprehension Proficiency by School Group

Subtask	Benchmarks	QRP-only		QRP+TTR		TTR-only	
		N	%	N	%	N	%
Oral reading fluency	80 CWPM	550	43.1%	519	36.8%	553	39.2%
Reading comprehension	80%	550	50.6%	519	65.5%	553	48.3%

Table 60: Russian Grade 2 2018 Grade-Level Fluency and Comprehension Proficiency by School Group

Subtask	Benchmarks	QRP-only		QRP+TTR		TTR-only	
		N	%	N	%	N	%
Oral reading fluency	40 CWPM	548	53.8%	128	45.3%	506	54.6%
Reading comprehension	80%	548	9.5%	128	19.5%	506	13.2%

Table 61: Russian Grade 4 2018 Grade-Level Fluency and Comprehension Proficiency by School Group

Subtask	Benchmarks	QRP-only		QRP+TTR		TTR-only	
		N	%	N	%	N	%
Oral reading fluency	80 CWPM	543	41.4%	129	33.3%	497	35.4%
Reading comprehension	80%	543	48.6%	129	31.8%	497	35.4%

Table 62: Kyrgyz Grade 2 2018 Mean Scores by Gender

Subtask	Boy			Girl		
	N	Mean	SE	N	Mean	SE
Letter name identification	824	63.73	0.73	830	68.51	0.68

Subtask	Boy			Girl		
	N	Mean	SE	N	Mean	SE
Initial sound identification	824	86.13	0.85	830	88.88	0.68
Familiar word reading	824	54.94	0.98	830	65.47	1.08
Nonword reading	824	24.34	0.41	830	27.74	0.51
Oral vocabulary	824	92.53	0.31	830	93.02	0.31
Oral reading fluency	824	34.66	0.61	829	41.62	0.72
Reading comprehension	824	40.63	0.99	830	55.20	1.03
Listening comprehension	824	59.71	0.91	830	60.15	0.84

Table 63: Kyrgyz Grade 4 2018 Mean Scores by Gender

Subtask	Boy			Girl		
	N	Mean	SE	N	Mean	SE
Familiar word reading	811	62.54	0.93	811	69.91	0.90
Nonword reading	811	35.05	0.49	811	38.12	0.50
Oral vocabulary	811	97.20	0.20	811	96.93	0.24
Oral reading fluency	811	66.91	0.97	803	77.75	0.90
Reading comprehension	811	57.59	1.02	811	69.98	0.94
Listening comprehension	811	73.73	0.83	811	71.09	0.96

Table 64: Russian Grade 2 2018 Mean Scores by Gender

Subtask	Boy			Girl		
	N	Mean	SE	N	Mean	SE
Letter name identification	590	41.92	0.62	590	44.62	0.54
Initial sound identification	590	79.87	1.12	592	80.73	1.09
Familiar word reading	590	52.89	1.08	592	55.84	0.97
Nonword reading	590	25.11	0.35	592	26.29	0.32
Oral vocabulary	590	89.25	0.53	592	90.03	0.55
Oral reading fluency	590	42.47	0.83	590	45.33	0.77

Subtask	Boy			Girl		
	N	Mean	SE	N	Mean	SE
Reading comprehension	590	32.92	1.18	592	35.27	1.19
Listening comprehension	590	63.93	1.35	592	58.15	1.36

Table 65: Russian Grade 4 2018 Mean Scores by Gender

Subtask	Boy			Girl		
	N	Mean	SE	N	Mean	SE
Familiar word reading	588	68.28	1.25	579	77.28	1.20
Nonword reading	588	30.61	0.56	581	36.24	0.64
Oral vocabulary	588	89.91	0.44	581	91.60	0.40
Oral reading fluency	588	59.10	1.38	581	71.48	1.36
Reading comprehension	588	45.87	1.50	581	54.79	1.41
Listening comprehension	588	57.39	1.25	581	58.32	1.26

Table 66: Kyrgyz Grade 2 2018 Zero Scores by Gender

Subtask	Boy		Girl	
	N	%	N	%
Letter name identification	822	0.5%	830	0.1%
Initial sound identification	824	1.7%	830	1.3%
Familiar word reading	823	0.5%	830	0.2%
Nonword reading	824	1.8%	829	1.2%
Oral vocabulary	824	0.0%	830	0.0%
Oral reading fluency	823	1.0%	829	0.4%
Reading comprehension	824	10.7%	830	4.8%
Listening comprehension	824	2.8%	830	3.3%

Table 67: Kyrgyz Grade 4 2018 Zero Scores by Gender

Subtask	Boy		Girl	
	N	%	N	%
Familiar word reading	811	0.1%	811	0.1%
Nonword reading	811	0.1%	811	0.2%
Oral vocabulary	811	0.0%	811	0.0%
Oral reading fluency	811	0.4%	810	0.0%
Reading comprehension	811	7.5%	811	2.7%
Listening comprehension	811	1.1%	811	1.7%

Table 68: Russian Grade 2 2018 Zero Scores by Gender

Subtask	Boy		Girl	
	N	%	N	%
Letter name identification	589	0.7%	591	0.3%
Initial sound identification	590	0.7%	592	0.7%
Familiar word reading	590	0.5%	592	0.7%
Nonword reading	590	1.9%	592	1.4%
Oral vocabulary	590	0.0%	592	0.2%
Oral reading fluency	590	0.2%	591	0.2%
Reading comprehension	590	22.7%	592	18.6%
Listening comprehension	590	6.6%	592	7.1%

Table 69: Russian Grade 4 2018 Zero Scores by Gender

Subtask	Boy		Girl	
	N	%	N	%
Familiar word reading	587	0.2%	580	0.0%
Nonword reading	588	0.5%	581	0.5%
Oral vocabulary	588	0.0%	581	0.0%
Oral reading fluency	588	0.3%	581	0.0%
Reading comprehension	588	19.7%	581	11.5%

Subtask	Boy		Girl	
	N	%	N	%
Listening comprehension	588	5.4%	581	5.5%

Table 70: Kyrgyz Grade 2 2018 Grade-Level Fluency and Comprehension Proficiency by Gender

Subtask	Benchmarks	Boy		Girl	
		N	%	N	%
Oral reading fluency	40 CWPM	824	39.0%	830	61.0%
Reading comprehension	80%	824	37.5%	830	62.5%

Table 71: Kyrgyz Grade 4 2018 Grade-Level Fluency and Comprehension Proficiency by Gender

Subtask	Benchmarks	Boy		Girl	
		N	%	N	%
Oral reading fluency	80 CWPM	989	41.2%	633	63.8%
Reading comprehension	80%	826	40.9%	796	59.4%

Table 72: Russian Grade 2 2018 Grade-Level Fluency and Comprehension Proficiency by Gender

Subtask	Benchmarks	Boy		Girl	
		N	%	N	%
Oral reading fluency	40 CWPM	590	45.4%	592	54.6%
Reading comprehension	80%	590	50.0%	592	50.0%

Table 73: Russian Grade 4 2018 Grade-Level Fluency and Comprehension Proficiency by Gender

Subtask	Benchmarks	Boy		Girl	
		N	%	N	%
Oral reading fluency	80 CWPM	762	44.9%	407	58.7%
Reading comprehension	80%	735	46.4%	434	55.3%

Table 74: Kyrgyz Grade 2 2018 Mean Scores by Location

Subtask	Urban-Semi-Urban			Rural		
	N	Mean	SE	N	Mean	SE
Letter name identification	269	69.37	1.17	1385	64.98	0.56

Subtask	Urban-Semi-Urban			Rural		
	N	Mean	SE	N	Mean	SE
Initial sound identification	269	82.15	1.47	1385	89.44	0.57
Familiar word reading	269	65.67	1.69	1385	58.32	0.82
Nonword reading	269	27.77	0.71	1385	25.44	0.38
Oral vocabulary	269	41.95	1.20	1384	36.82	0.52
Oral reading fluency	269	93.91	0.46	1385	92.37	0.25
Reading comprehension	269	53.22	1.94	1385	46.11	0.78
Listening comprehension	269	59.07	1.63	1385	60.24	0.66

Table 75: Kyrgyz Grade 4 2018 Mean Scores by Location

Subtask	Urban-Semi-Urban			Rural		
	N	Mean	SE	N	Mean	SE
Familiar word reading	250	84.80	1.52	1372	61.40	0.67
Nonword reading	250	45.11	0.80	1372	34.37	0.37
Oral vocabulary	250	96.60	0.33	1372	97.18	0.17
Oral reading fluency	244	88.94	1.46	1372	68.09	0.72
Reading comprehension	250	72.60	1.38	1372	61.52	0.80
Listening comprehension	250	70.38	1.70	1372	72.93	0.68

Table 76: Russian Grade 2 2018 Mean Scores by Location

Subtask	Urban-Semi-Urban			Rural		
	N	Mean	SE	N	Mean	SE
Letter name identification	449	44.96	0.64	731	42.23	0.54
Initial sound identification	449	83.16	1.18	733	78.55	1.03
Familiar word reading	449	58.17	1.17	733	52.03	0.92
Nonword reading	449	27.04	0.36	733	24.88	0.31
Oral vocabulary	449	92.31	0.59	733	88.00	0.49
Oral reading fluency	449	47.05	0.92	731	41.96	0.71

Subtask	Urban-Semi-Urban			Rural		
	N	Mean	SE	N	Mean	SE
Reading comprehension	449	42.96	1.37	733	28.64	1.01
Listening comprehension	449	71.25	1.42	733	54.71	1.23

Table 77: Russian Grade 4 2018 Mean Scores by Location

Subtask	Urban-Semi-Urban			Rural		
	N	Mean	SE	N	Mean	SE
Familiar word reading	437	77.28	1.36	730	69.86	1.13
Nonword reading	439	35.13	0.73	730	32.32	0.53
Oral vocabulary	439	92.51	0.45	730	89.62	0.39
Oral reading fluency	439	72.42	1.59	730	60.67	1.23
Reading comprehension	439	60.02	1.62	730	44.03	1.30
Listening comprehension	439	64.64	1.36	730	53.44	1.13

Table 78: Kyrgyz Grade 2 Zero Scores by Location

Subtask	Urban-Semi-Urban		Rural	
	N	%	N	%
Letter name identification	269	0.0%	1384	0.1%
Initial sound identification	269	1.9%	1385	0.9%
Familiar word reading	269	0.0%	1385	0.2%
Nonword reading	269	0.0%	1385	2.4%
Oral vocabulary	269	0.0%	1385	0.0%
Oral reading fluency	269	0.0%	1384	0.9%
Reading comprehension	269	6.7%	1385	9.7%
Listening comprehension	269	4.8%	1385	2.5%

Table 79: Kyrgyz Grade 4 Zero Scores by Location

Subtask	Urban-Semi-Urban		Rural	
	N	%	N	%
Familiar word reading	250	0.0%	1372	0.1%
Nonword reading	250	0.0%	1372	0.2%
Oral vocabulary	250	0.0%	1372	0.0%
Oral reading fluency	249	0.0%	1372	0.2%
Reading comprehension	250	2.4%	1372	5.6%
Listening comprehension	250	1.6%	1372	1.4%

Table 80: Russian Grade 2 Zero Scores by Location

Subtask	Urban-Semi-Urban		Rural	
	N	%	N	%
Letter name identification	449	0.7%	731	0.4%
Initial sound identification	449	0.0%	733	1.1%
Familiar word reading	449	0.4%	733	0.7%
Nonword reading	449	0.9%	733	2.0%
Oral vocabulary	449	0.2%	733	0.0%
Oral reading fluency	449	0.2%	732	0.1%
Reading comprehension	449	14.5%	733	24.4%
Listening comprehension	449	4.9%	733	8.0%

Table 81: Russian Grade 4 Zero Scores by Location

Subtask	Urban-Semi-Urban		Rural	
	N	%	N	%
Familiar word reading	438	0.0%	729	0.1%
Nonword reading	439	0.2%	730	0.7%
Oral vocabulary	439	0.0%	730	0.0%
Oral reading fluency	439	0.0%	730	0.3%
Reading comprehension	439	10.5%	730	18.8%

Subtask	Urban-Semi-Urban		Rural	
	N	%	N	%
Listening comprehension	439	3.2%	730	6.8%

Table 82: Kyrgyz Grade 2 2018 Grade- Level Fluency and Comprehension Proficiency by Location

Subtask	Benchmarks	Urban or Semi-Urban		Rural	
		N	%	N	%
Oral reading fluency	40 CWPM	269	49.8%	1385	36.8%
Reading comprehension	80%	269	38.7%	1385	26.1%

Table 83: Kyrgyz Grade 4 2018 Grade- Level Fluency and Comprehension Proficiency by Location

Subtask	Benchmarks	Urban or Semi-Urban		Rural	
		N	%	N	%
Oral reading fluency	80 CWPM	250	48.4%	1372	37.3%
Reading comprehension	80%	250	54.8%	1372	48.0%

Table 84: Russian Grade 2 2018 Grade- Level Fluency and Comprehension Proficiency by Location

Subtask	Benchmarks	Urban or Semi-Urban		Rural	
		N	%	N	%
Oral reading fluency	40 CWPM	449	60.1%	733	50.9%
Reading comprehension	80%	449	19.2%	733	9.8%

Table 85: Russian Grade 4 2018 Grade- Level Fluency and Comprehension Proficiency by Location

Subtask	Benchmarks	Urban or Semi-Urban		Rural	
		N	%	N	%
Oral reading fluency	80 CWPM	438	0.0%	729	0.1%
Reading comprehension	80%	439	0.2%	730	0.7%

Table 86: Kyrgyz Grade 2 2018 Mean Scores by 7 Oblasts

Subtask	Batken			Jalal-Abad			Naryn			Osh			Talas			Chui			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	248	66.42	1.22	238	58.14	1.68	228	66.57	1.35	233	64.36	1.35	235	71.88	0.97	235	66.92	1.19	237	73.46	1.18
Initial sound identification	248	81.33	1.78	238	95.09	0.85	228	93.77	1.19	233	94.37	0.84	235	90.83	0.97	235	74.76	1.69	237	92.11	1.37
Familiar word reading	248	59.53	1.92	238	52.71	2.00	228	71.17	1.96	233	54.49	1.92	235	72.27	1.92	235	59.86	1.72	237	69.55	2.09
Nonword reading	248	26.60	0.79	238	22.41	0.84	228	30.78	0.87	233	24.17	0.82	235	28.34	0.84	235	24.84	0.74	237	31.62	1.16
Oral vocabulary	248	95.94	0.40	238	92.70	0.52	228	97.49	0.32	233	88.67	0.74	235	94.95	0.56	235	93.13	0.52	237	92.39	0.53
Oral reading fluency	248	39.77	1.31	238	33.33	1.15	228	46.82	1.37	233	34.23	1.22	235	45.82	1.27	235	37.75	1.23	236	41.11	1.24
Reading comprehension	248	50.76	1.82	238	41.89	2.03	228	53.10	1.68	233	45.21	2.03	235	53.11	1.44	235	45.61	2.07	237	55.31	1.88
Listening comprehension	248	61.10	1.44	238	56.30	1.47	228	67.92	1.08	233	58.51	1.88	235	58.34	1.67	235	56.83	1.78	237	67.55	1.35

Table 87: Kyrgyz Grade 4 2018 Mean Scores by 7 Oblasts

Subtask	Batken			Jalal-Abad			Naryn			Osh			Talas			Chui			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	246	61.94	1.30	225	53.22	1.96	217	67.95	1.37	230	61.51	1.83	236	71.92	1.75	229	82.60	1.66	239	63.34	1.52
Nonword reading	246	33.53	0.70	225	31.60	1.14	217	36.12	0.86	230	37.05	1.07	236	40.29	0.88	229	41.57	0.84	239	33.57	0.73
Oral vocabulary	246	99.19	0.18	225	96.61	0.41	217	99.84	0.10	230	94.39	0.59	236	98.55	0.30	229	95.21	0.37	239	99.45	0.16
Oral reading fluency	246	68.78	1.52	225	62.34	2.16	217	75.32	1.39	230	70.61	2.11	236	83.37	1.68	223	78.19	1.39	239	67.41	1.65
Reading comprehension	246	71.17	1.75	225	57.48	1.76	217	66.52	1.16	230	59.89	2.30	236	62.44	1.78	229	61.68	1.68	239	68.43	1.73
Listening comprehension	246	76.93	1.77	225	65.44	1.81	217	86.42	1.13	230	74.06	1.53	236	60.91	1.39	229	63.84	1.82	239	78.23	1.40

Table 88: Russian Grade 2 2018 Mean Scores by 7 Oblasts

Subtask	Batken			Jalal-Abad			Naryn			Osh			Talas			Chui			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	170	39.12	0.96	180	38.37	0.94	139	37.96	1.06	170	41.61	1.04	125	55.95	1.07	228	43.87	0.93	168	48.08	1.09
Initial sound identification	170	96.13	1.01	180	67.28	2.13	139	83.87	1.69	170	91.40	1.05	170	91.40	1.85	125	90.60	2.10	170	84.37	1.75
Familiar word reading	170	40.17	1.30	180	46.63	1.50	139	59.04	2.25	170	46.10	1.64	125	70.95	2.28	228	60.04	1.69	170	61.23	1.90
Nonword reading	180	23.90	0.51	180	23.90	0.63	139	26.16	0.80	170	23.81	0.58	125	29.57	0.69	228	27.05	0.52	170	27.19	0.65
Oral vocabulary	170	84.62	1.03	180	83.64	1.18	139	89.74	0.98	170	82.45	1.28	125	95.69	0.85	228	95.55	0.45	170	92.24	0.74
Oral reading fluency	170	32.19	1.00	180	36.69	1.08	139	45.87	1.61	170	36.01	1.17	125	55.56	1.59	227	51.05	1.44	170	48.60	1.39
Reading comprehension	170	15.38	1.25	180	18.95	1.55	139	38.43	2.38	170	21.23	1.75	125	45.82	2.43	228	50.67	1.92	170	37.82	2.18
Listening comprehension	170	38.37	2.28	180	37.38	2.29	139	71.91	2.40	170	48.34	2.64	125	74.38	2.45	228	80.60	1.47	170	65.90	2.11

Table 89: Russian Grade 4 2018 Mean Scores by 7 Oblasts

Subtask	Batken			Jalal-Abad			Naryn			Osh			Talas			Chui			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	169	60.89	2.06	179	66.62	1.99	136	78.27	2.35	168	54.53	1.82	119	84.40	2.55	229	79.98	1.94	167	84.28	2.51
Nonword reading	169	29.37	1.03	179	32.35	1.09	136	36.63	1.20	168	26.47	0.92	119	37.41	1.19	229	35.04	0.93	169	38.04	1.41
Oral vocabulary	169	88.02	0.90	179	88.95	0.77	136	91.47	0.89	168	86.82	1.04	119	93.51	0.67	229	93.50	0.54	169	91.31	0.59
Oral reading fluency	169	46.57	2.03	179	57.30	2.32	136	72.33	2.73	168	40.77	1.78	119	77.82	2.61	229	79.87	2.23	169	73.83	2.39
Reading comprehension	169	26.90	2.32	179	39.73	2.60	136	58.80	3.32	168	30.61	2.22	119	74.37	2.61	229	65.76	2.00	169	53.18	2.51
Listening comprehension	169	40.80	2.53	179	45.98	2.39	136	69.92	2.58	168	54.93	2.58	119	75.53	1.96	229	65.05	1.61	169	59.72	1.85

Table 90: Kyrgyz Grade 2 2018 Mean Scores by 9 Oblasts

Subtask	Batken			Bishkek			Chui			Jalal-Abad			Naryn			Osh City			Osh Region			Talas			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	248	66.42	1.22	80	71.28	1.80	155	60.34	1.55	238	58.14	1.68	228	66.57	1.35	40	67.78	3.37	193	62.13	1.43	235	71.88	0.97	237	73.46	1.18
Initial sound identification	248	81.33	1.78	80	72.08	2.92	155	78.81	2.04	238	95.09	0.85	228	93.77	1.19	40	93.67	2.14	193	94.83	0.89	235	90.83	0.97	237	92.11	1.37
Familiar word reading	248	59.53	1.92	80	67.37	2.60	155	48.52	2.16	238	52.71	2.00	228	71.17	1.96	40	63.39	4.95	193	48.71	1.91	235	72.27	1.92	237	69.55	2.09
Nonword reading	248	26.60	0.79	80	28.18	1.16	155	19.80	0.90	238	22.41	0.84	228	30.78	0.87	40	27.73	2.00	193	21.86	0.85	235	28.34	0.84	237	31.62	1.16
Oral vocabulary	248	95.94	0.40	80	94.29	.86	155	91.39	0.65	238	92.70	0.52	228	97.49	0.32	40	93.51	1.22	193	85.52	0.87	235	94.95	0.56	237	92.39	0.53
Oral reading fluency	248	39.77	1.31	80	43.03	2.04	155	29.76	1.35	238	33.33	1.15	228	46.82	1.37	40	40.78	3.41	193	29.97	1.10	235	45.82	1.27	236	41.11	1.24
Reading comprehension	248	50.76	1.82	80	52.75	3.78	155	34.82	2.02	238	41.89	2.03	228	53.10	1.68	40	55.84	4.70	193	38.30	2.15	235	53.11	1.44	237	55.31	1.88
Listening comprehension	248	61.10	1.44	80	59.60	3.2	155	52.65	1.99	238	56.30	1.47	228	67.92	1.08	40	58.97	4.21	193	58.34	2.17	235	58.34	1.67	237	67.55	1.35

Table 91: Kyrgyz Grade 4 2018 Mean Scores by 9 Oblasts

Subtask	Batken			Bishkek			Chui			Jalal-Abad			Naryn			Osh City			Osh Region			Talas			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	246	61.94	1.30	70	93.41	2.64	159	68.15	1.71	225	53.22	1.96	217	67.95	1.37	40	79.14	3.71	190	51.26	1.79	236	71.92	1.75	239	63.34	1.52
Nonword reading	246	33.53	0.70	70	44.34	1.35	159	37.87	1.08	225	31.60	1.14	217	36.12	0.86	40	46.91	2.07	190	31.32	1.10	236	40.29	0.88	239	33.57	0.73
Oral vocabulary	246	99.19	0.18	70	95.02	0.72	159	95.46	0.40	225	96.61	0.41	217	99.84	0.10	40	98.00	0.64	190	92.29	0.74	236	98.55	0.30	239	99.45	0.16
Oral reading fluency	246	68.78	1.52	67	93.57	2.32	159	71.36	1.67	225	62.34	2.16	217	75.32	1.39	40	95.83	3.68	190	55.96	1.95	236	83.37	1.68	239	67.41	1.65
Reading comprehension	246	71.17	1.75	70	66.02	2.76	159	55.89	2.17	225	57.48	1.76	217	66.52	1.16	40	79.85	2.89	190	48.28	2.68	236	62.44	1.78	239	68.43	1.73
Listening comprehension	246	76.93	1.77	70	57.42	3.26	159	72.42	2.04	225	65.44	1.81	217	86.42	1.13	40	84.69	2.86	190	67.88	1.72	236	60.91	1.39	239	78.23	1.40

Table 92: Russian Grade 2 2018 Mean Scores by 9 Oblasts

Subtask	Batken			Bishkek			Chui			Jalal-Abad			Naryn			Osh City			Osh Region			Talas			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	170	39.12	0.96	50	47.12	2.06	178	42.79	2.06	180	38.37	0.94	139	37.96	1.06	50	44.69	1.81	120	37.19	1.24	125	55.95	1.07	168	48.08	1.09
Initial sound identification	170	96.13	1.01	50	78.25	4.14	178	62.91	2.38	180	67.28	2.13	139	83.87	1.69	50	90.71	1.06	120	92.46	1.12	170	91.40	1.85	170	84.37	1.75
Familiar word reading	170	40.17	1.30	50	70.30	2.25	178	56.63	1.89	180	46.63	1.50	139	59.04	2.25	50	52.81	3.01	120	35.80	1.58	125	70.95	2.28	170	61.23	1.90
Nonword reading	180	23.90	0.51	50	30.62	1.07	178	25.87	0.56	180	23.90	0.63	139	26.16	0.80	50	25.70	0.98	120	20.92	0.69	125	29.57	0.69	170	27.19	0.65
Oral vocabulary	170	84.62	1.03	50	96.02	0.95	178	95.39	0.51	180	83.64	1.18	139	89.74	0.98	50	85.00	2.53	120	78.55	1.28	125	95.69	0.85	170	92.24	0.74
Oral reading fluency	170	32.19	1.00	50	58.85	3.02	177	48.44	1.59	180	36.69	1.08	139	45.87	1.61	50	40.73	2.13	120	28.76	1.16	125	55.56	1.59	170	48.60	1.39
Reading comprehension	170	15.38	1.25	50	62.75	4.00	178	46.65	2.11	180	18.95	1.55	139	38.43	2.38	50	28.40	3.48	120	10.22	1.29	125	45.82	2.43	170	37.82	2.18
Listening comprehension	170	38.37	2.28	50	84.55	3.40	178	79.29	3.40	180	37.38	2.29	139	71.91	2.40	50	56.80	4.65	120	35.34	3.00	125	74.38	2.45	170	65.90	2.11

Table 93: Russian Grade 4 2018 Mean Scores by 9 Oblast

Subtask	Batken			Bishkek			Chui			Jalal-Abad			Naryn			Osh City			Osh Region			Talas			Issyk-Kul		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	169	60.89	2.06	50	83.25	3.43	179	78.84	2.31	179	66.62	1.99	136	78.27	2.35	49	55.54	3.67	119	52.27	1.70	119	84.40	2.55	167	84.28	2.51
Nonword reading	169	29.37	1.03	50	33.66	1.40	179	35.52	1.14	179	32.35	1.09	136	36.63	1.20	49	25.90	1.85	119	27.73	0.89	119	37.41	1.19	169	38.04	1.41
Oral vocabulary	169	88.02	0.90	50	95.10	1.13	179	92.94	1.13	179	88.95	0.77	136	91.47	0.89	49	88.98	1.63	119	81.97	1.51	119	93.51	0.67	169	91.31	0.59
Oral reading fluency	169	46.57	2.03	50	83.91	3.89	179	78.45	2.66	179	57.30	2.32	136	72.33	2.73	49	41.51	3.54	119	39.09	1.77	119	77.82	2.61	169	73.83	2.39
Reading comprehension	169	26.90	2.32	50	72.75	3.56	179	63.31	2.36	179	39.73	2.60	136	58.80	3.32	49	34.29	3.96	119	22.38	2.73	119	74.37	2.61	169	53.18	2.51
Listening comprehension	169	40.80	2.53	50	67.20	3.31	179	64.30	1.85	179	45.98	2.39	136	69.92	2.58	49	55.92	4.59	119	52.71	3.37	119	75.53	1.96	169	59.72	1.85

Table 94: Kyrgyz Grade 2 Baseline (2017) and Midline (2018) Mean Scores by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Letter name identification	QRP-only	981	67.26	0.59	561	65.00	0.88	-2.26	-0.81	0.86
	QRP+TTR	981	67.26	0.59	529	67.12	0.83	-0.14	-2.93	0.02
	TTR-only	927	69.48	0.65	564	66.41	0.87	-3.07	-	-
Initial sound identification	QRP-only	986	95.58	0.25	561	88.62	0.86	-6.96	-3.83	0.02
	QRP+TTR	986	95.58	0.25	529	92.75	0.77	-2.83	-7.96	0.00
	TTR-only	930	96.33	0.27	564	85.54	1.00	-10.79	-	-
Familiar word reading	QRP-only	985	57.06	0.95	561	60.69	1.31	3.63	-5.01	0.17
	QRP+TTR	985	57.06	0.95	529	58.08	1.27	1.02	-2.39	0.27
	TTR-only	925	62.03	1.05	564	60.65	1.26	-1.38	-	-
Nonword reading	QRP-only	958	25.45	0.42	561	25.42	0.57	-0.03	-1.28	0.50
	QRP+TTR	958	25.45	0.42	529	25.98	0.60	0.53	-1.84	0.03
	TTR-only	909	27.69	0.44	564	26.37	0.56	-1.31	-	-
Oral vocabulary	QRP-only	986	93.50	0.28	561	92.24	0.40	-1.26	-0.28	0.83
	QRP+TTR	986	93.50	0.28	529	95.11	0.30	1.61	-3.15	0.00
	TTR-only	930	93.92	0.32	564	92.39	0.39	-1.54	-	-
Oral reading fluency	QRP-only	979	36.42	0.63	560	38.06	0.86	1.64	-1.64	0.73
	QRP+TTR	979	36.42	0.63	529	36.59	0.75	0.17	-0.17	0.67
	TTR-only	919	38.67	0.67	564	38.66	0.83	0.00	-	-
Reading comprehension	QRP-only	986	67.31	0.92	561	45.49	1.29	-21.83	4.13	0.13
	QRP+TTR	930	67.64	1.00	564	48.72	1.23	-18.92	1.23	0.40
	TTR-only	986	67.31	0.92	529	49.62	1.38	-17.69	-	-
Listening comprehension	QRP-only	986	63.34	0.83	561	56.59	1.09	-6.76	5.15	0.02
	QRP+TTR	986	63.34	0.83	529	61.03	0.94	-2.31	0.71	0.85
	TTR-only	930	62.82	0.83	564	61.22	1.09	-1.60	-	-

Table 95: Kyrgyz Grade 4 Baseline (2017) and Midline (2018) Mean Scores by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Familiar word reading	QRP-only	967	85.50	0.98	550	75.48	1.35	-10.02	-10.78	0.00
	QRP+TTR	967	85.50	0.98	519	62.91	0.98	-22.59	1.79	0.62
	TTR-only	924	85.78	1.12	553	64.98	1.09	-20.80	-	-
Nonword reading	QRP-only	966	34.88	0.45	550	38.59	0.68	3.71	-1.16	0.93
	QRP+TTR	966	34.88	0.45	519	34.30	0.51	-0.59	3.13	0.04
	TTR-only	923	34.11	0.49	553	36.66	0.60	2.55	-	-
Oral vocabulary	QRP-only	970	98.16	0.16	550	96.48	0.25	-1.68	0.76	0.01
	QRP+TTR	970	98.16	0.16	519	99.37	0.12	1.20	-2.13	0.00
	TTR-only	928	97.61	0.23	553	96.68	0.29	-0.93	-	-
Oral reading fluency	QRP-only	967	78.94	0.94	533	75.95	1.21	-2.99	-3.46	0.99
	QRP+TTR	967	78.94	0.94	519	71.01	1.11	-7.93	1.48	1.00
	TTR-only	926	78.32	1.06	553	71.86	1.16	-6.45	-	-
Reading comprehension	QRP-only	970	58.39	1.04	550	63.53	1.21	5.14	-5.01	0.20
	QRP+TTR	970	58.39	1.04	519	75.38	1.17	16.99	-16.86	0.00
	TTR-only	928	61.21	1.07	553	61.34	1.21	0.13	-	-
Listening comprehension	QRP-only	970	76.76	0.75	550	64.71	1.07	-12.04	5.85	0.00
	QRP+TTR	970	76.76	0.75	519	85.30	0.98	8.54	-14.74	0.00
	TTR-only	928	77.43	0.79	553	71.24	1.08	-6.19	-	-

Table 96: Russian Grade 2 Baseline (2017) and Midline (2018) Mean Scores by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Letter name identification	QRP-only	284	56.34	1.04	548	39.91	0.63	-16.43	8.49	0.00
	QRP+TTR	284	56.34	1.04	128	41.09	1.32	-15.25	7.31	0.00
	TTR-only	352	52.42	0.97	505	44.48	0.61	-7.94	-	-
Initial sound identification	QRP-only	287	93.67	0.85	548	79.97	1.12	-13.70	5.47	0.19
	QRP+TTR	287	93.67	0.85	128	76.45	2.68	-17.22	8.98	0.01
	TTR-only	359	89.89	1.01	506	81.65	1.14	-8.24	-	-
Familiar word reading	QRP-only	283	56.89	1.51	548	50.85	0.97	-6.04	14.42	0.00
	QRP+TTR	283	56.89	1.51	128	51.49	2.46	-5.40	13.78	0.00
	TTR-only	358	47.46	1.32	506	55.84	1.07	8.38	-	-
Nonword reading	QRP-only	284	28.38	0.66	548	24.44	0.36	-3.94	5.70	0.00
	QRP+TTR	284	28.38	0.66	128	24.72	0.81	-3.66	5.42	0.00
	TTR-only	355	24.45	0.60	506	26.21	0.34	1.76	-	-
Oral vocabulary	QRP-only	287	93.14	0.61	548	92.98	0.33	-0.16	2.45	0.84
	QRP+TTR	287	93.14	0.61	128	87.58	1.27	-5.56	7.85	0.00
	TTR-only	359	87.59	0.78	506	89.87	0.58	2.29	-	-
Oral reading fluency	QRP-only	285	46.37	1.30	548	40.16	0.72	-6.21	13.48	0.00
	QRP+TTR	285	46.37	1.30	128	42.51	2.00	-3.86	11.13	0.00
	TTR-only	355	37.63	1.04	505	44.90	0.83	7.27	-	-
Reading comprehension	QRP-only	287	47.35	2.05	548	32.90	1.14	-14.45	13.36	0.09
	QRP+TTR	287	47.35	2.05	128	35.63	2.84	-11.72	10.63	0.25
	TTR-only	359	34.85	1.84	506	33.76	1.25	-1.09	-	-
Listening comprehension	QRP-only	287	58.59	2.22	548	68.92	1.08	10.33	2.66	0.21
	QRP+TTR	287	58.59	2.22	128	59.53	3.21	0.94	12.05	0.15
	TTR-only	359	47.42	2.02	506	60.42	1.46	12.99	-	-

Table 97: Russian Grade 4 Baseline (2017) and Midline (2018) Mean Scores by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Familiar word reading	QRP-only	287	83.81	1.82	542	75.49	1.38	-8.32	6.91	0.49
	QRP+TTR	287	83.81	1.82	129	68.59	2.59	-15.22	13.81	0.00
	TTR-only	359	75.20	1.70	497	73.79	1.33	-1.41	-	-
Nonword reading	QRP-only	282	35.82	0.79	542	32.34	0.64	-3.47	5.91	0.03
	QRP+TTR	282	35.82	0.79	129	31.92	1.26	-3.90	6.33	0.00
	TTR-only	355	31.69	0.68	498	34.12	0.67	2.43	-	-
Oral vocabulary	QRP-only	287	94.13	0.45	542	91.23	0.43	-2.90	5.17	0.01
	QRP+TTR	287	94.13	0.45	129	89.84	1.03	-4.28	6.56	0.00
	TTR-only	359	88.72	0.72	498	90.99	0.44	2.27	-	-
Oral reading fluency	QRP-only	285	81.19	1.71	542	70.18	1.51	-11.01	5.46	0.46
	QRP+TTR	285	81.19	1.71	129	63.12	3.04	-18.07	12.52	0.02
	TTR-only	359	70.81	1.44	498	65.27	1.49	-5.55	-	-
Reading comprehension	QRP-only	287	63.45	1.81	542	59.33	1.45	-4.12	0.58	0.02
	QRP+TTR	287	63.45	1.81	129	48.37	3.21	-15.08	11.53	0.20
	TTR-only	359	53.10	1.83	498	49.55	1.58	-3.55	-	-
Listening comprehension	QRP-only	287	97.62	0.83	542	67.79	0.97	-29.83	-6.76	0.00
	QRP+TTR	287	97.62	0.83	129	56.74	2.80	-40.88	4.29	0.83
	TTR-only	359	93.21	1.25	498	56.62	1.37	-36.59	-	-

Table 98: Kyrgyz Grade 2 Baseline (2017) and Midline (2018) Mean Scores for Boys by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Letter name identification	QRP-only	488	64.20	0.83	263	63.97	1.29	-0.23	-2.78	0.15
	QRP+TTR	488	64.20	0.83	239	63.01	1.00	-1.19	-1.82	0.17
	TTR-only	492	66.83	0.91	240	63.82	1.42	-3.01	-	-
Initial sound identification	QRP-only	490	95.41	0.35	263	85.92	1.48	-9.49	-2.72	0.02
	QRP+TTR	490	95.41	0.35	239	95.69	0.89	0.28	-12.49	0.00
	TTR-only	495	96.00	0.38	240	83.79	1.67	-12.21	-	-
Familiar word reading	QRP-only	489	50.81	1.29	263	56.43	1.69	5.62	-6.98	0.02
	QRP+TTR	489	50.81	1.29	239	49.13	1.68	-1.68	0.32	0.64
	TTR-only	493	55.81	1.42	240	54.45	1.84	-1.36	-	-
Nonword reading	QRP-only	473	23.03	0.57	263	24.04	0.70	1.02	-2.41	0.05
	QRP+TTR	473	23.03	0.57	239	23.49	0.73	0.46	-1.86	0.05
	TTR-only	480	25.68	0.62	240	24.28	0.78	-1.39	-	-
Oral vocabulary	QRP-only	490	93.67	0.38	263	92.85	0.57	-0.82	-0.40	0.58
	QRP+TTR	490	93.67	0.38	239	94.35	0.46	0.68	-1.90	0.01
	TTR-only	495	92.89	0.46	240	91.67	0.60	-1.22	-	-
Oral reading fluency	QRP-only	486	32.00	0.81	263	35.02	1.03	3.02	-2.70	0.12
	QRP+TTR	486	32.00	0.81	239	31.29	0.96	-0.71	1.03	0.98
	TTR-only	487	34.35	0.86	240	34.67	1.19	0.32	-	-
Reading comprehension	QRP-only	490	63.16	1.37	263	41.98	1.80	-21.19	-2.40	0.35
	QRP+TTR	490	63.16	1.37	239	36.40	1.85	-26.76	3.18	
	TTR-only	495	63.59	1.44	240	40.00	1.81	-23.59	-	-
Listening comprehension	QRP-only	490	62.65	1.19	263	57.57	1.55	-5.09	3.87	0.66
	QRP+TTR	490	62.65	1.19	239	61.92	1.53	-0.73	-0.49	0.30
	TTR-only	495	63.74	1.06	240	62.52	0.92	-1.22	-	-

Table 99: Kyrgyz Grade 4 Baseline (2017) and Midline (2018) Mean Scores for Boys by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Familiar word reading	QRP-only	500	79.04	1.29	244	70.03	1.95	-9.01	-8.58	0.05
	QRP+TTR	500	79.04	1.29	234	60.42	1.41	-18.62	1.03	0.86
	TTR-only	535	79.10	1.50	285	61.52	1.56	-17.59	-	-
Nonword reading	QRP-only	499	32.14	0.58	244	38.73	1.09	6.59	-3.19	0.23
	QRP+TTR	499	32.14	0.58	234	32.48	0.77	0.34	3.05	0.27
	TTR-only	535	31.60	0.63	285	35.00	0.81	3.40	-	-
Oral vocabulary	QRP-only	501	98.30	0.21	244	96.11	0.39	-2.20	1.78	0.00
	QRP+TTR	501	98.30	0.21	234	99.23	0.17	0.93	-1.34	0.01
	TTR-only	537	97.43	0.26	285	97.02	0.35	-0.41	-	-
Oral reading fluency	QRP-only	500	70.82	1.18	244	65.84	1.60	-4.98	4.06	0.19
	QRP+TTR	500	70.82	1.18	234	66.48	1.80	-4.34	3.42	0.37
	TTR-only	536	70.17	1.34	285	69.25	1.27	-0.92	-	-
Reading comprehension	QRP-only	501	56.13	1.44	244	54.75	1.86	-1.37	-1.05	0.98
	QRP+TTR	501	56.13	1.44	234	65.47	1.87	9.34	-11.77	0.00
	TTR-only	537	58.85	1.43	285	56.42	1.72	-2.42	-	-
Listening comprehension	QRP-only	501	75.29	1.08	244	73.82	1.35	-1.46	-5.66	0.00
	QRP+TTR	501	75.29	1.08	234	85.47	1.50	10.18	-17.31	0.00
	TTR-only	537	76.05	1.04	285	68.92	1.03	-7.13	-	-

Table 100: Russian Grade 2 Baseline (2017) and Midline (2018) Mean Scores for Boys by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Letter name identification	QRP-only	126	56.32	1.43	245	35.32	0.94	-21.01	13.98	0.00
	QRP+TTR	126	56.32	1.43	63	39.51	1.76	-16.81	9.79	0.00
	TTR-only	177	50.55	1.43	188	43.53	1.12	-7.03	-	-

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Initial sound identification	QRP-only	129	93.80	1.11	245	78.36	1.73	-15.44	7.28	0.32
	QRP+TTR	129	93.80	1.11	63	77.10	3.68	-16.70	8.53	0.12
	TTR-only	177	89.04	1.51	188	80.88	1.95	-8.16	-	-
Familiar word reading	QRP-only	129	56.83	2.11	245	47.76	1.50	-9.07	19.44	0.00
	QRP+TTR	129	56.83	2.11	63	50.82	3.70	-6.01	16.38	0.01
	TTR-only	177	43.76	1.82	188	54.14	1.86	10.37		
Nonword reading	QRP-only	129	27.78	0.84	245	22.76	0.55	-5.01	8.50	0.00
	QRP+TTR	129	27.78	0.84	63	24.31	1.25	-3.47	6.96	0.00
	TTR-only	176	22.16	0.79	188	25.65	0.58	3.49	-	-
Oral vocabulary	QRP-only	129	94.42	0.72	245	93.27	0.50	-1.15	4.02	0.73
	QRP+TTR	129	94.42	0.72	63	87.46	1.78	-6.96	9.83	0.00
	TTR-only	177	86.44	1.20	188	89.31	0.94	2.87	-	-
Oral reading fluency	QRP-only	129	44.83	1.76	245	37.03	1.05	-7.80	16.86	0.00
	QRP+TTR	129	44.83	1.76	63	42.15	3.04	-2.68	11.74	0.01
	TTR-only	176	34.16	1.37	188	43.21	1.40	9.06	-	-
Reading comprehension	QRP-only	129	45.22	2.98	245	27.10	1.50	-18.12	17.26	0.06
	QRP+TTR	129	45.22	2.98	63	35.87	4.27	-9.35	8.48	0.67
	TTR-only	177	33.52	2.73	188	32.66	2.00	-0.86	-	-
Listening comprehension	QRP-only	129	62.21	3.28	245	67.18	1.74	4.97	9.56	0.89
	QRP+TTR	129	62.21	3.28	63	62.86	4.59	0.65	13.89	0.28
	TTR-only	177	49.29	3.03	188	63.83	2.37	14.54	-	-

Table 101: Russian Grade 4 Baseline (2017) and Midline (2018) Mean Scores for Boys by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Familiar word reading	QRP-only	125	83.81	2.57	250	68.65	2.19	-15.16	16.16	0.11
	QRP+TTR	125	83.81	2.57	64	62.63	3.65	-21.18	22.17	0.00
	TTR-only	174	69.28	2.46	184	70.27	2.22	0.99	-	-
Nonword reading	QRP-only	124	36.39	1.17	250	28.03	0.97	-8.36	11.44	0.00
	QRP+TTR	124	36.39	1.17	64	28.46	1.73	-7.93	11.02	0.00
	TTR-only	171	28.66	0.90	184	31.74	0.97	3.08	-	-
Oral vocabulary	QRP-only	125	94.08	0.74	250	90.84	0.68	-3.24	6.10	0.07
	QRP+TTR	125	94.08	0.74	64	88.91	1.38	-5.17	8.04	0.00
	TTR-only	174	87.30	1.18	184	90.16	0.78	2.86	-	-
Oral reading fluency	QRP-only	125	80.16	2.41	250	63.76	2.52	-16.40	11.87	0.55
	QRP+TTR	125	80.16	2.41	64	54.67	4.17	-25.49	20.96	0.00
	TTR-only	174	64.59	1.99	184	60.06	2.39	-4.53	-	-
Reading comprehension	QRP-only	125	63.80	2.80	250	57.20	2.36	-6.60	2.83	0.19
	QRP+TTR	125	63.80	2.80	64	39.06	4.37	-24.74	20.97	0.03
	TTR-only	174	50.29	2.66	184	46.52	2.69	-3.77	-	-
Listening comprehension	QRP-only	125	98.20	1.03	250	73.44	1.27	-24.76	-9.71	0.00
	QRP+TTR	125	98.20	1.03	64	55.63	3.63	-42.58	8.10	0.44
	TTR-only	174	89.80	2.18	184	55.33	2.31	-34.47	-	-

Table 102: Kyrgyz Grade 2 Baseline (2017) and Midline (2018) Mean Scores for Girls by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Letter name identification	QRP-only	438	70.76	0.84	284	64.85	1.25	-5.91	3.21	0.18
	QRP+TTR	438	70.76	0.84	240	71.05	1.35	0.29	-3.00	0.02

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
	TTR-only	458	72.06	0.90	240	69.36	1.21	-2.70	-	-
Initial sound identification	QRP-only	440	96.14	0.34	284	90.35	1.05	-5.78	-2.92	0.05
	QRP+TTR	440	96.14	0.34	240	92.26	1.12	-3.88	-4.83	0.00
	TTR-only	458	96.48	0.40	240	87.78	1.27	-8.70	-	-
Familiar word reading	QRP-only	440	65.55	1.43	284	62.54	2.02	-3.01	2.09	0.65
	QRP+TTR	440	65.55	1.43	240	64.68	1.93	-0.87	-0.05	0.35
	TTR-only	455	67.37	1.51	240	66.45	1.96	-0.92	-	-
Nonword reading	QRP-only	432	28.30	0.62	284	25.82	0.89	-2.48	1.75	0.32
	QRP+TTR	432	28.30	0.62	240	27.79	1.01	-0.52	-0.22	0.28
	TTR-only	451	29.24	0.62	240	28.50	0.94	-0.74	-	-
Oral vocabulary	QRP-only	440	93.52	0.43	284	91.51	0.57	-2.01	0.97	0.44
	QRP+TTR	440	93.52	0.43	240	95.88	0.43	2.35	-3.39	0.00
	TTR-only	458	94.04	0.45	240	93.00	0.58	-1.04	-	-
Oral reading fluency	QRP-only	437	42.10	0.97	284	39.25	1.34	-2.86	2.92	0.29
	QRP+TTR	437	42.10	0.97	240	40.30	1.13	-1.80	1.86	0.74
	TTR-only	454	42.59	1.00	240	42.65	1.35	0.06	-	-
Reading comprehension	QRP-only	440	70.40	1.28	284	47.18	1.87	-23.21	10.84	0.00
	QRP+TTR	440	70.40	1.28	240	61.00	1.96	-9.40	-2.97	0.12
	TTR-only	458	69.71	1.38	240	57.33	1.81	-12.37	-	-
Listening comprehension	QRP-only	440	62.05	1.25	284	55.56	1.52	-6.48	8.02	0.01
	QRP+TTR	440	62.05	1.25	240	59.58	1.20	-2.46	4.00	0.19
	TTR-only	458	61.46	1.27	240	63.00	1.58	1.54	-	-

Table 103: Kyrgyz Grade 4 Baseline (2017) and Midline (2018) Mean Scores for Girls by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Familiar word reading	QRP-only	433	95.27	1.42	244	83.02	2.11	-12.25	-11.23	0.01
	QRP+TTR	433	95.27	1.42	250	65.36	1.37	-29.91	6.43	0.25
	TTR-only	474	91.62	1.50	285	68.13	1.44	-23.49	-	-
Nonword reading	QRP-only	433	38.54	0.69	244	39.18	0.95	0.63	1.34	0.19
	QRP+TTR	433	38.54	0.69	250	36.05	0.65	-2.50	4.47	0.04
	TTR-only	474	36.29	0.69	285	38.26	0.87	1.97	-	-
Oral vocabulary	QRP-only	434	98.11	0.23	244	96.56	0.36	-1.55	0.61	0.48
	QRP+TTR	434	98.11	0.23	250	99.92	0.06	1.81	-2.76	0.00
	TTR-only	476	97.37	0.37	285	96.43	0.29	-0.95	-	-
Oral reading fluency	QRP-only	433	90.10	1.42	227	78.91	1.61	-11.19	3.25	0.18
	QRP+TTR	433	90.10	1.42	250	75.78	1.38	-14.32	6.38	0.24
	TTR-only	474	85.45	1.50	285	77.51	1.57	-7.94	-	-
Reading comprehension	QRP-only	434	60.97	1.55	244	72.21	1.58	11.25	-6.99	0.07
	QRP+TTR	434	60.97	1.55	250	87.36	1.12	26.39	-22.14	0.00
	TTR-only	476	61.64	1.50	285	65.89	1.63	4.26	-	-
Listening comprehension	QRP-only	434	77.74	1.08	244	65.74	1.70	-12.00	2.78	0.24
	QRP+TTR	434	77.74	1.08	250	88.32	1.21	10.58	-19.80	0.00
	TTR-only	476	77.86	1.12	285	68.63	1.64	-9.23	-	-

Table 104: Russian Grade 2 Baseline (2017) and Midline (2018) Mean Scores for Girls by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Letter name identification	QRP-only	131	56.53	1.58	245	43.43	0.85	-13.10	4.99	0.16
	QRP+TTR	131	56.53	1.58	65	42.62	1.94	-13.91	5.80	0.09

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
	TTR-only	176	53.58	1.31	188	45.47	0.86	-8.11	-	-
Initial sound identification	QRP-only	131	94.20	1.28	245	79.77	1.67	-14.43	5.89	0.38
	QRP+TTR	131	94.20	1.28	65	75.82	3.90	-18.37	9.83	0.05
	TTR-only	183	90.98	1.36	189	82.44	1.78	-8.54	-	-
Familiar word reading	QRP-only	128	59.47	2.24	245	51.30	1.30	-8.16	14.14	0.00
	QRP+TTR	128	59.47	2.24	65	52.13	3.27	-7.33	13.31	0.00
	TTR-only	182	51.59	1.82	189	57.56	1.65	5.97	-	-
Nonword reading	QRP-only	129	29.88	1.06	245	25.38	0.50	-4.49	4.53	0.00
	QRP+TTR	129	29.88	1.06	65	25.13	1.04	-4.75	4.79	0.02
	TTR-only	180	26.73	0.84	189	26.77	0.55	0.04	-	-
Oral vocabulary	QRP-only	131	92.67	1.00	245	92.69	0.45	0.02	0.84	0.54
	QRP+TTR	131	92.67	1.00	65	87.69	1.83	-4.98	5.84	0.08
	TTR-only	183	89.56	0.99	189	90.42	0.97	0.86	-	-
Oral reading fluency	QRP-only	129	49.70	1.98	245	41.13	0.96	-8.57	13.76	0.00
	QRP+TTR	129	49.70	1.98	65	42.86	2.62	-6.84	12.03	0.00
	TTR-only	180	41.42	1.43	188	46.61	1.32	5.19	-	-
Reading comprehension	QRP-only	131	53.18	3.08	245	36.98	1.80	-16.20	11.05	0.55
	QRP+TTR	131	53.18	3.08	65	35.38	3.79	-17.80	12.64	0.22
	TTR-only	183	40.07	2.63	189	34.92	2.09	-5.15	-	-
Listening comprehension	QRP-only	131	59.54	3.22	245	70.94	1.42	11.40	-3.13	0.04
	QRP+TTR	131	59.54	3.22	65	56.31	4.49	-3.23	11.50	0.35
	TTR-only	183	48.77	2.78	189	57.04	2.39	8.27	-	-

Table 105: Russian Grade 4 Baseline (2017) and Midline (2018) Mean Scores for Girls by School Group

Subtask	Group	Baseline (2017)			Midline (2018)			Mean differences from baseline to midline	Difference in differences relative to the TTR-only group	P-value
		N	Mean	SE	N	Mean	SE			
Familiar word reading	QRP-only	135	87.02	2.76	248	82.69	1.79	-4.33	0.62	0.51
	QRP+TTR	135	87.02	2.76	65	74.46	3.56	-12.55	8.84	0.17
	TTR-only	186	81.02	2.24	183	77.31	2.15	-3.71	-	-
Nonword reading	QRP-only	132	36.26	1.12	248	36.38	0.84	0.12	1.21	0.82
	QRP+TTR	132	36.26	1.12	65	35.33	1.76	-0.93	2.26	0.47
	TTR-only	186	35.16	0.97	184	36.49	1.20	1.33	-	-
Oral vocabulary	QRP-only	135	94.67	0.60	248	91.53	0.59	-3.13	4.61	0.08
	QRP+TTR	135	94.67	0.60	65	90.77	1.52	-3.90	5.37	0.03
	TTR-only	186	90.43	0.82	184	91.90	0.65	1.47	-	-
Oral reading fluency	QRP-only	133	84.75	2.54	248	78.05	1.83	-6.70	-1.31	0.08
	QRP+TTR	133	84.75	2.54	65	71.43	4.22	-13.32	5.31	0.63
	TTR-only	186	78.44	1.94	184	70.43	2.45	-8.01	-	-
Reading comprehension	QRP-only	135	66.85	2.41	248	62.90	1.87	-3.95	-2.42	0.04
	QRP+TTR	135	66.85	2.41	65	57.54	4.44	-9.31	2.94	0.70
	TTR-only	186	58.87	2.51	184	52.50	2.51	-6.37	-	-
Listening comprehension	QRP-only	135	97.41	1.30	248	62.02	1.43	-35.39	-3.80	0.03
	QRP+TTR	135	97.41	1.30	65	57.85	4.28	-39.56	0.37	0.63
	TTR-only	186	96.91	1.16	184	57.72	2.20	-39.19	-	-

Table 106:Kyrgyz Grade 2 2018 Mean Scores by Age³⁹

Subtask	Age 7			Age 8			Age 9			Age 10		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	143	64.28	1.42	1061	67.30	0.63	433	63.97	1.03	14	46.88	3.17
Initial sound identification	143	87.94	1.94	1061	88.30	0.66	433	85.06	1.12	14	86.89	7.60

³⁹ One student reported her age as six years old. She was not included in the table of results.

Subtask	Age 7			Age 8			Age 9			Age 10		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	143	62.02	2.17	1061	62.23	0.95	433	54.50	1.36	14	44.35	5.49
Nonword reading	143	25.88	0.86	1061	26.94	0.44	433	23.90	0.57	14	18.35	1.98
Oral vocabulary	143	90.13	0.81	1061	92.76	0.38	433	93.84	0.39	14	96.87	1.84
Oral reading fluency	143	36.68	1.46	1061	39.28	0.62	433	35.27	0.90	14	26.88	2.88
Reading comprehension	143	46.15	1.45	1061	48.88	0.92	433	46.15	1.45	14	46.85	6.37
Listening comprehension	143	56.21	2.16	1061	60.21	0.77	433	61.05	1.20	14	57.26	4.07

Table 107: Kyrgyz Grade 4 2018 Mean Scores by Age⁴⁰

Subtask	Age 9			Age 10			Age 11			Age 12		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	127	61.80	2.04	996	67.63	0.87	478	65.06	1.14	16	46.64	3.08
Nonword reading	127	32.61	1.14	996	37.13	0.47	478	37.15	0.59	16	27.92	0.59
Oral vocabulary	127	94.41	0.74	996	97.48	0.19	478	97.18	0.36	16	99.77	0.39
Oral reading fluency	127	64.96	2.19	988	74.09	0.88	478	71.27	1.21	16	51.49	5.86
Reading comprehension	127	61.16	2.71	996	65.20	0.86	478	62.64	1.39	16	48.54	5.38
Listening comprehension	127	66.36	2.18	996	73.06	0.84	478	72.90	1.08	16	79.16	3.86

Table 108: Russian Grade 2 2018 Mean Scores by Age

Subtask	Age 6			Age 7			Age 8			Age 9			Age 10		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Letter name identification	5	31.86	4.59	166	41.10	1.09	768	44.05	0.49	229	43.38	1.03	10	27.48	5.82
Initial sound identification	5	66.85	23.47	166	84.58	1.77	770	81.72	0.94	229	75.10	1.90	10	54.37	12.23
Familiar word reading	5	29.48	7.63	166	49.13	1.95	770	55.90	0.86	229	55.91	1.74	10	28.25	11.79
Nonword reading	5	20.51	4.39	166	24.06	0.66	770	26.27	0.28	229	26.09	0.57	10	17.32	3.56
Oral vocabulary	5	60.33	16.32	166	85.61	1.12	770	90.51	0.45	229	91.46	0.73	10	83.63	4.12
Oral reading fluency	5	26.47	5.43	166	39.44	1.44	768	45.06	0.68	229	45.57	1.41	10	30.16	7.61

⁴⁰ Two students reported their age as 13 years old. They were not included in the table of results.

Subtask	Age 6			Age 7			Age 8			Age 9			Age 10		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Reading comprehension	5	13.36	4.71	166	24.96	1.94	770	36.44	1.06	229	36.04	1.98	10	22.55	5.33
Listening comprehension	5	26.46	12.47	166	50.33	2.56	770	62.31	1.19	229	67.55	1.19	10	44.87	9.89

Table 109: Russian Grade 4 2018 Mean Scores by Age⁴¹

Subtask	Age 9			Age 10			Age 11			Age 12		
	N	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE
Familiar word reading	143	59.32	2.27	796	75.60	1.03	209	75.53	2.26	14	59.13	7.05
Nonword reading	143	798	34.80	798	34.80	0.52	209	32.83	1.01	14	32.16	4.21
Oral vocabulary	143	88.84	0.96	798	91.11	0.35	209	91.19	0.35	14	92.51	3.53
Oral reading fluency	143	47.51	2.47	798	68.76	1.16	209	68.15	2.44	14	64.54	10.74
Reading comprehension	143	33.34	2.53	798	53.89	1.25	209	52.11	2.57	14	46.52	9.17
Listening comprehension	143	48.49	2.82	798	59.90	1.01	209	59.01	2.18	14	50.81	10.92

⁴¹ One student reported her age as 7 years old, one student reported her age as 8 years old, and one student reported her age as 13 years old. These students were not included in the table of results.

Annex J: Detailed student survey tables

Table 110: Student Survey Frequencies by Language and Grade

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
What language do you usually speak at home?	Kyrgyz	1529	92.4%	1530	94.4%	583	49.4%	600	51.3%
	Russian	107	6.5%	113	7.0%	534	45.2%	533	45.6%
	Uzbek	119	7.2%	52	3.2%	217	18.4%	226	19.3%
	Tajik	3	0.2%	1	0.1%	10	0.8%	11	0.9%
	Tatar	2	0.1%	2	0.1%	1	0.1%	1	0.1%
	Uigur	0	0.0%	3	0.2%	6	0.5%	1	0.1%
	Dungan	1	0.0%	4	0.2%	19	1.6%	18	1.5%
	Other	2	0.1%	14	0.9%	24	2.0%	38	3.3%
	Refuse/No answer	0	0.0%	1	0.1%	14	1.2%	4	0.3%
What language do you usually speak at school?	Kyrgyz	1628	98.4%	1613	99.6%	94	8.0%	103	8.8%
	Russian	108	6.5%	79	4.9%	1137	96.3%	1148	98.2%
	Uzbek	12	0.7%	7	0.4%	45	3.8%	52	4.5%
	Tajik	0	0.0%	0	0.0%	1	0.1%	0	0.0%
	Tatar	0	0.0%	2	0.1%	3	0.3%	2	0.2%
	Uigur	1	0.0%	1	0.1%	2	0.2%	3	0.3%
	Dungan	8	0.5%	2	0.1%	5	0.4%	6	0.5%
	Other	8	0.5%	6	0.4%	2	0.2%	2	0.2%
	Refuse/No answer	0	0.0%	0	0.0%	20	1.7%	3	0.3%
No	433	26.2%	438	27.0%	283	24.0%	288	24.6%	

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
Before school, did you go to kindergarten or to preparatory lessons?	Yes	1219	73.7%	1181	72.9%	888	75.2%	876	74.9%
	Refuse/No answer	0	0.0%	1	0.1%	10	0.8%	5	0.4%
What grade are you in?	Grade 1	0	0.0%	0	0.0%	3	0.3%	0	0.0%
	Grade 2	1652	100.0%	1	0.1%	1178	99.7%	0	0.0%
	Grade 3	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Grade 4	0	0.0%	1619	99.9%	0	0.0%	1169	100.0%
What grade were you in last year?	Prep/Kindergarten	41	2.5%	4	0.2%	50	4.2%	8	0.7%
	Grade 1	1607	97.1%	12	0.7%	1005	85.1%	21	1.8%
	Grade 2	4	0.2%	2	0.1%	34	2.9%	7	0.6%
	Grade 3	0	0.0%	1591	98.2%	7	0.6%	1063	90.9%
	Grade 4	1	0.0%	9	0.6%	0	0.0%	25	2.1%
	Refuse/No answer	0	0.0%	2	0.1%	85	7.2%	45	3.9%
Did you study in this school last year?	No	160	9.7%	112	6.9%	162	13.7%	104	8.9%
	Yes	1453	87.8%	1504	92.8%	962	81.5%	1058	90.5%
	Refuse/No answer	39	2.4%	4	0.2%	57	4.8%	7	0.6%
How do you usually get to school?	Walk	1393	84.2%	1503	92.7%	851	72.0%	900	77.1%
	Car/Truck/Motorcycle	72	4.4%	32	2.0%	178	15.1%	112	9.6%
	Public Transport	166	10.0%	77	4.7%	134	11.3%	142	12.2%
	Other	8	5.0%	7	0.4%	6	0.5%	7	0.6%
	Refuse/No answer	14	9.0%	3	0.2%	13	1.1%	7	0.6%

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
When you go to school or return from school, does somebody from your family accompany you?	No	1274	77.0%	1292	79.7%	668	56.5%	847	72.5%
	Yes	370	22.4%	327	20.2%	491	41.5%	301	25.8%
	Other	8	0.5%	3	0.2%	10	0.8%	17	1.5%
	Refuse/No answer	2	0.1%	0	0.0%	13	1.1%	3	0.3%
Do you have a copybook on reading?	No	421	25.5%	252	15.5%	293	24.8%	196	16.8%
	Yes	1233	74.5%	1369	84.4%	883	74.7%	970	83.1%
	Refuse/No answer	0	0.0%	1	0.1%	6	0.5%	2	0.2%
When you write a test well or give a right answer during a lesson, what does your teacher do?	Nothing	48	2.9%	28	1.7%	9	0.8%	16	1.4%
	Praise me	558	33.8%	773	47.7%	409	34.6%	612	52.4%
	Prize	12	0.7%	21	1.3%	0	0.0%	2	0.2%
	Good mark	1167	70.5%	1012	62.4%	694	58.7%	612	52.4%
	No Chores/Homework	22	1.3%	10	0.6%	4	0.3%	3	0.3%
	Other	2	0.1%	30	1.8%	18	1.5%	12	1.0%
	Refuse/No answer	6	0.4%	10	0.6%	140	11.8%	52	4.5%
If you cannot answer a question or give a wrong answer during a lesson, what does your teacher do?	Nothing	190	11.5%	207	12.8%	90	7.6%	93	8.0%
	Explains Question	52	3.2%	147	9.1%	85	7.2%	157	13.4%
	Asks me to try again	104	6.3%	166	10.2%	58	4.9%	91	7.8%
	Asks another student	25	1.5%	94	5.8%	73	6.2%	87	7.5%
	Asks the question again	21	1.3%	37	2.3%	3	0.3%	9	0.8%
	Gives me bad mark	556	33.6%	357	22.0%	433	36.6%	269	23.0%

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
	Corrects my answer	60	3.6%	98	6.0%	74	6.3%	130	11.1%
	Scolds me	429	25.9%	361	22.3%	135	11.4%	155	13.3%
	Tells me to leave	9	0.5%	0	0.0%	2	0.2%	1	1.0%
	Puts me in the corner	2	0.1%	3	0.2%	1	0.1%	0	0.0%
	Teacher hits mess	4	0.2%	3	0.2%	4	0.3%	0	0.0%
	Other	122	7.4%	113	7.0%	81	6.9%	109	9.3%
	Refuse/No answer	78	4.7%	36	2.2%	143	12.1%	67	5.7%
During last week, how many times did the teacher give you homework on reading?	Not once	8	1.4%	8	0.5%	11	0.9%	0	0.0%
	Once	133	23.7%	270	16.6%	166	14.0%	97	8.3%
	Two times	100	17.8%	222	13.7%	169	14.3%	129	11.0%
	Three times	140	25.0%	583	35.9%	284	24.0%	455	39.0%
	Four times	55	9.8%	276	17.0%	98	8.3%	146	12.5%
	Everyday	68	12.1%	191	11.8%	178	15.1%	150	12.8%
	Refuse/No answer	57	10.2%	72	4.4%	276	23.4%	191	16.4%
During last week, did your teacher check your homework on reading?	No	259	15.6%	187	11.5%	158	13.4%	188	16.1%
	Yes	1376	83.2%	1428	88.0%	1004	84.9%	971	83.1%
	Refuse/No answer	19	1.1%	7	0.4%	20	1.7%	9	0.8%
If you need help with your homework, who helps you at home?	No one	45	2.7%	74	4.6%	61	5.2%	80	6.9%
	Brother/Sister	710	42.9%	597	36.8%	338	28.6%	331	28.3%
	Father/Mother	1010	61.1%	1087	67.0%	750	63.5%	772	66.1%

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
	Grandfather/Grandmother	96	5.8%	104	6.4%	132	11.2%	117	10.0%
	Other	32	1.9%	51	3.1%	26	2.2%	18	1.5%
	Refuse/No answer	1	0.0%	1	0.1%	8	0.7%	1	0.1%
Did you eat something today before going to school?	No	393	23.8%	298	18.4%	214	18.1%	208	17.8%
	Yes	1260	76.2%	1324	81.6%	962	81.5%	961	82.2%
	Refuse/No answer	0	0.0%	0	0.0%	5	0.4%	0	0.0%
Did you miss school lessons during the last week? IF YES, why?	No, I did not miss lessons	1224	74.0%	1331	82.1%	802	67.9%	933	79.8%
	Yes, I was sick	205	12.4%	87	5.4%	209	17.7%	125	10.7%
	Yes, I overslept	33	2.0%	23	1.4%	51	4.3%	19	1.6%
	Yes, because I had nothing to eat	0	0.0%	0	0.0%	1	0.1%	0	0.0%
	Yes, because I had to take care of a younger sibling	47	2.8%	48	3.0%	9	0.8%	20	1.7%
	Yes, because someone at my home was sick and I needed to take care of them	16	1.0%	8	0.5%	6	0.5%	5	0.4%
	Yes, because I had to work at home	50	3.0%	37	2.3%	4	0.3%	8	0.7%
	Yes, because there was no transport/transport came late	0	0.0%	1	0.1%	4	0.3%	1	0.1%
	Yes, because I did not have a school uniform	0	0.0%	4	0.2%	0	0.0%	0	0.0%
	Yes, because the student (s)/teacher (s) at school treat me badly	9	0.5%	2	0.1%	3	0.3%	0	0.0%
Yes, because it is dangerous at school	0	0.0%	0	0.0%	0	0.0%	1	0.1%	

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
	Yes, because it is very difficult for me to study at school	15	0.9%	14	0.9%	1	0.1%	1	0.1%
	Yes, because school is not interesting for me	1	0.0%	1	0.1%	0	0.0%	0	0.0%
	Yes, because the weather was bad'	39	2.3%	9	0.6%	2	0.2%	0	0.0%
	Other	79	4.8%	87	5.4%	72	6.1%	60	5.1%
	Refuse/No answer	3	0.2%	7	0.4%	41	3.5%	12	1.0%
Were you late to school during the last week?	No, I was not late	1135	80.7%	1437	88.6%	875	74.1%	940	80.4%
	Yes, I was sick	9	0.6%	6	0.4%	14	1.2%	9	0.8%
	Yes, I overslept	150	9.1%	93	5.7%	153	13.0%	109	9.3%
	Yes because I had nothing to eat	0	0.0%	1	0.1%	0	0.0%	1	0.1%
	Yes, because I had to take care of my little brother/sister	51	3.1%	22	1.4%	20	1.7%	29	2.5%
	Yes, because I could not find my school uniform	11	0.7%	12	0.7%	4	0.3%	1	0.1%
	Yes, because the student(s) /teacher(s) at school treat me badly	7	0.4%	1	0.1%	0	0.0%	0	0.0%
	Yes, because the weather was bad	3	0.2%	1	0.1%	1	0.1%	1	0.1%
	Yes, because the transport came late	44	2.7%	17	1.0%	28	2.4%	21	1.8%
	Other	88	5.3%	52	3.2%	69	5.8%	61	5.2%
	Refuse/No answer	2	0.1%	4	0.2%	32	2.7%	9	0.8%
Do you take books from your class or from the	No	705	42.6%	446	27.5%	574	48.6%	484	41.4%
	Yes	947	57.3%	1175	72.4%	578	48.9%	681	58.3%

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
school library to read at home?	Refuse/No answer	1	0.1%	1	0.1%	29	2.5%	4	0.3%
Apart from school books and textbooks, do you have books at home that you can read?	No	252	15.2%	171	10.5%	122	10.3%	79	6.7%
	Yes	1402	84.8%	1450	89.4%	1053	89.2%	1085	92.8%
	Refuse/No answer	0	0.0%	1	0.1%	6	0.5%	5	0.4%
How many times in a week do you read at home by yourself?	Never	32	1.9%	14	0.9%	21	1.8%	20	1.7%
	Less than once a week	436	26.4%	352	21.7%	8	0.7%	7	0.6%
	Once a week	88	5.3%	51	3.1%	121	10.2%	72	6.2%
	2-3 times a week	457	27.6%	462	28.5%	458	38.8%	516	44.1%
	Daily	616	37.2%	716	44.1%	349	29.6%	395	33.8%
	Other	14	0.8%	20	1.2%	144	12.2%	131	11.2%
	Refuse/No answer	11	0.7%	7	0.4%	80	6.8%	28	2.4%
How many times in a week do you read at home with someone or someone reads to you?	Never	260	15.7%	234	14.4%	380	32.2%	428	36.6%
	Less than once a week	385	23.3%	566	34.9%	16	1.4%	14	1.2%
	Once a week	133	8.0%	94	5.8%	176	14.9%	106	9.1%
	2-3 times a week	430	26.0%	410	25.3%	316	26.8%	379	32.4%
	Daily	410	24.8%	299	18.4%	125	10.6%	132	11.3%
	Other	29	1.8%	10	0.6%	102	8.6%	73	6.2%
	Refuse/No answer	7	0.4%	9	0.6%	66	5.6%	37	3.2%
Do you have a place at home where you can do your homework?	No	325	19.6%	308	19.0%	92	7.8%	69	5.9%
	Yes	1329	80.4%	1313	80.9%	1061	89.8%	1094	93.6%

Question	Response	Kyrgyz Grade 2		Kyrgyz Grade 4		Russian Grade 2		Russian Grade 4	
		Count	%	Count	%	Count	%	Count	%
	Refuse/No answer	0	0.0%	1	0.1%	28	2.4%	6	0.5%
Do you have the following at your home?	Radio	1654	100.0%	1616	99.6%	1159	98.1%	1160	99.2%
	TV	631	38.2%	618	38.1%	513	43.4%	532	45.5%
	Bike	1634	98.8%	1616	99.6%	1171	99.2%	1158	99.1%
	Car/motorcycle	1030	62.2%	1081	66.6%	811	68.7%	819	70.1%
	Toilet inside home	1067	64.5%	935	57.6%	832	70.4%	820	70.2%
	Electricity	351	21.2%	218	13.4%	439	37.2%	422	36.1%
	Computer	432	26.1%	348	21.5%	495	41.9%	506	43.3%
	Kitchen inside home	1149	69.5%	1178	72.6%	979	82.9%	977	83.6%
Where do you get drinking water at home?	From a spring/river	210	12.7%	232	14.3%	32	2.7%	42	3.6%
	From a well	103	6.2%	166	10.2%	136	11.5%	151	12.9%
	From water supply/tap	1221	73.8%	1141	70.3%	919	77.8%	901	77.1%
	From water transporting truck	8	0.5%	3	0.2%	7	0.6%	6	0.5%
	From bore hole	89	5.4%	62	3.8%	11	0.9%	16	1.4%
	Other	16	1.0%	14	0.9%	53	4.5%	46	3.9%
	Refuse/No answer	7	0.4%	4	0.2%	23	1.9%	7	0.6%

Table III: Student Survey Composites by Language and Grade

Question	Kyrgyz Grade 2				Kyrgyz Grade 4				Russian Grade 2				Russian Grade 4			
	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD
How old are you?	6.00	10.00	8.19	0.59	1.00	13.00	10.23	0.65	6.00	10.00	8.07	0.62	7.00	13.00	10.08	0.60
Socioeconomic status index score	2.00	8.00	4.63	1.38	2.00	8.00	4.69	1.32	1.00	8.00	5.42	1.39	2.00	8.00	5.47	1.36

Table II2: Kyrgyz Student Survey Composites by School Group

Question	Kyrgyz Grade 2												Kyrgyz Grade 4											
	QRP				TTR+QRP				TTR				QRP				TTR+QRP				TTR			
	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD
How old are you?	6.00	10.00	8.23	0.60	7.00	10.00	8.18	0.61	7.00	10.00	8.16	0.56	9.00	12.00	10.26	0.62	9.00	13.00	10.25	0.59	1.00	13.00	10.19	0.72
Composite score socioeconomic status	2.00	8.00	4.70	1.35	2.00	8.00	4.47	1.38	2.00	8.00	4.71	1.39	2.00	8.00	4.73	1.32	2.00	8.00	4.58	1.30	2.00	8.00	4.76	1.33

Table 113: Russian Student Survey Composites by School Group

Question	Russian Grade 2												Russian Grade 4											
	QRP				TTR+QRP				TTR				QRP				TTR+QRP				TTR			
	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD
How old are you?	6.00	10.00	8.07	0.55	7.00	10.00	8.17	0.71	6.00	10.00	8.02	0.65	9.00	13.00	10.12	0.57	9.00	12.00	10.05	0.68	7.00	12.00	10.04	0.61
Composite score Socioeconomic status	1.00	8.00	5.35	1.34	1.00	8.00	5.15	1.55	2.00	8.00	5.56	1.38	2.00	8.00	5.39	1.39	2.00	8.00	5.54	1.40	2.00	8.00	5.54	1.32

Table 114: Kyrgyz Student Survey by Grade and School Group

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
What language do you usually speak at home?	Kyrgyz	529	94.5%	511	96.8%	530	94.0%	509	92.7%	503	96.9%	518	93.8%
	Russian	28	5.0%	30	5.7%	36	6.4%	38	6.9%	35	6.7%	40	7.2%
	Uzbek	25	4.5%	6	1.1%	21	3.7%	26	4.7%	1	0.2%	25	4.5%
	Tajik	2	0.4%	0	0.0%	2	0.4%	0	0.0%	0	0.0%	1	0.2%
	Tatar	1	0.2%	0	0.0%	1	0.2%	2	0.4%	0	0.0%	0	0.0%
	Uigur	0	0.0%	2	0.4%	0	0.0%	2	0.4%	0	0.0%	1	0.2%
	Dungan	0	0.0%	2	0.4%	0	0.0%	3	0.5%	1	0.2%	0	0.0%
	Other	2	0.4%	2	0.4%	0	0.0%	5	0.9%	5	1.0%	4	0.7%
	Refuse/No answer	0	0.0%	2	0.4%	0	0.0%	1	0.2%	0	0.0%	0	0.0%
What language do you usually speak at school?	Kyrgyz	557	99.5%	523	99.1%	555	98.4%	545	99.3%	517	99.6%	551	99.8%
	Russian	27	4.8%	38	7.2%	36	6.4%	26	4.7%	22	4.2%	31	5.6%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Uzbek	8	1.4%	0	0.0%	2	0.4%	2	0.4%	0	0.0%	5	0.9%
	Tajik	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Tatar	0	0.0%	0	0.0%	1	0.2%	0	0.0%	0	0.0%	2	0.4%
	Uigur	0	0.0%	1	0.2%	1	0.2%	0	0.0%	1	0.2%	0	0.0%
	Dungan	0	0.0%	0	0.0%	4	0.7%	1	0.2%	0	0.0%	1	0.2%
	Other	2	0.4%	0	0.0%	1	0.2%	2	0.4%	2	0.4%	2	0.4%
	Refuse/No answer	0	0.0%	1	0.2%	2	0.4%	0	0.0%	0	0.0%	0	0.0%
Before school, did you go to a kindergarten or to preparatory lessons?	No	124	22.1%	181	34.3%	141	25.0%	134	24.4%	170	32.8%	134	24.3%
	Yes	435	77.7%	347	65.7%	421	74.6%	414	75.4%	349	67.2%	418	75.7%
	Refuse/No answer	1	0.2%	0	0.0%	2	0.4%	1	0.2%	0	0.0%	0	0.0%
What grade are you in?	Grade 1	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Grade 2	560	100.0%	528	100.0%	564	100.0%	1	0.2%	0	0.0%	0	0.0%
	Grade 3	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Grade 4	0	0.0%	0	0.0%	0	0.0%	548	99.8%	519	100.0%	552	100.0%
What grade were you in last year?	Prep/Kindergarten	13	2.3%	13	2.5%	12	2.1%	1	0.2%	2	0.4%	1	0.2%
	Grade 1	542	96.8%	513	97.2%	547	97.0%	2	0.4%	5	1.0%	5	0.9%
	Grade 2	4	0.7%	1	0.2%	3	0.5%	0	0.0%	0	0.0%	2	0.4%
	Grade 3	0	0.0%	0	0.0%	0	0.0%	544	99.1%	505	97.3%	542	98.2%
	Grade 4	1	0.2%	0	0.0%	1	0.2%	2	0.4%	5	1.0%	2	0.4%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Refuse/No answer	0	0.0%	1	0.2%	1	0.2%	0	0.0%	2	0.4%	0	0.0%
Did you study in this school last year?	No	32	5.7%	46	8.7%	54	9.6%	22	4.0%	45	8.7%	45	8.2%
	Yes	516	92.1%	468	88.6%	498	88.3%	526	95.8%	472	90.9%	506	91.7%
	Refuse/No answer	12	2.1%	14	2.7%	12	2.1%	1	0.2%	2	0.4%	1	0.2%
How do you usually get to school?	Walk	514	91.6%	486	91.9%	498	88.3%	518	94.2%	492	94.8%	493	89.2%
	Car/Truck/Motorcycle	15	2.7%	15	2.8%	30	5.3%	8	1.5%	8	1.5%	16	2.9%
	Public Transport	30	5.3%	18	3.4%	32	5.7%	20	3.6%	15	2.9%	42	7.6%
	Other	1	0.2%	8	1.5%	3	0.5%	2	0.4%	3	0.6%	2	0.4%
	Refuse/No answer	1	0.2%	2	0.4%	1	0.2%	2	0.4%	1	0.2%	0	0.0%
When you go to school or return from school, does somebody from your family accompany you?	No	439	78.3%	402	76.0%	407	72.2%	457	83.1%	404	77.8%	431	77.9%
	Yes	119	21.2%	127	24.0%	153	27.1%	92	16.7%	114	22.0%	121	21.9%
	Other	1	0.2%	0	0.0%	3	0.5%	1	0.2%	1	0.2%	1	0.2%
	Refuse/No answer	2	0.4%	0	0.0%	1	0.2%	0	0.0%	0	0.0%	0	0.0%
Do you have a copybook on reading?	No	126	22.5%	157	29.7%	134	23.8%	78	14.2%	99	19.1%	75	13.6%
	Yes	435	77.5%	372	70.3%	429	76.1%	472	85.8%	420	80.9%	477	86.3%
	Refuse/No answer	0	0.0%	0	0.0%	1	0.2%	0	0.0%	0	0.0%	1	0.2%
When you write a test well or give a right answer during a lesson, what does your teacher do?	Nothing	6	1.1%	6	1.1%	10	1.8%	7	1.3%	10	1.9%	11	2.0%
	Praise me	223	39.8%	197	37.2%	208	36.9%	278	50.5%	246	47.4%	249	45.0%
	Prize	4	0.7%	8	1.5%	6	1.1%	11	2.0%	4	0.8%	6	1.1%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Good mark	397	70.8%	359	67.9%	379	67.2%	354	64.4%	308	59.3%	350	63.3%
	No Chores/ Homework	8	1.4%	4	0.8%	5	0.9%	2	0.4%	3	0.6%	5	0.9%
	Other	1	0.2%	10	1.9%	6	1.1%	6	1.1%	14	2.7%	10	1.8%
	Refuse/No answer	5	0.9%	4	0.8%	2	0.4%	1	0.2%	5	1.0%	4	0.7%
If you cannot answer a question or give a wrong answer during a lesson, what does your teacher do?	Nothing	52	9.3%	61	11.5%	66	11.7%	57	10.4%	62	11.9%	88	15.9%
	Explains question	23	4.1%	19	3.6%	24	4.3%	60	10.9%	43	8.3%	44	8.0%
	Asks me to try again	22	3.9%	29	5.5%	42	7.4%	50	9.1%	57	11.0%	59	10.7%
	Asks another student	25	4.5%	31	5.9%	17	3.0%	25	4.5%	39	7.5%	30	5.4%
	Asks the question again	10	1.8%	9	1.7%	5	0.9%	19	3.5%	9	1.7%	9	1.6%
	Gives me bad mark	212	37.8%	164	31.0%	181	32.1%	147	26.7%	94	18.1%	116	21.0%
	Corrects my answer	23	4.1%	20	3.8%	18	3.2%	31	5.6%	33	6.4%	34	6.1%
	Scolds me	148	26.4%	136	25.7%	150	26.6%	130	23.6%	126	24.3%	105	19.0%
	Tells me to leave	1	0.2%	0	0.0%	1	0.2%	0	0.0%	0	0.0%	0	0.0%
	Puts me in the corner	1	0.2%	0	0.0%	1	0.2%	0	0.0%	1	0.2%	2	0.4%
	Teacher hits me	4	0.7%	1	0.2%	1	0.2%	1	0.2%	0	0.0%	2	0.4%
	Other	28	5.0%	44	8.3%	43	7.6%	17	3.1%	45	8.7%	51	9.2%
	Refuse/No answer	12	2.1%	15	2.8%	15	2.7%	13	2.4%	10	1.9%	13	2.4%
During last week, how many times did the teacher	Not once	8	1.4%	7	1.3%	3	0.5%	3	0.5%	3	0.6%	2	0.4%
	Once	133	23.7%	99	18.7%	125	22.2%	96	17.5%	95	18.3%	79	14.3%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
give you homework on reading?	Two times	100	17.8%	106	20.0%	101	17.9%	76	13.8%	59	11.4%	87	15.7%
	Three times	140	25.0%	127	24.0%	108	19.1%	189	34.4%	194	37.4%	200	36.2%
	Four times	55	9.8%	52	9.8%	62	11.0%	94	17.1%	75	14.5%	107	19.3%
	Everyday	68	12.1%	91	17.2%	116	20.6%	58	10.5%	71	13.7%	62	11.2%
	Refuse/No answer	57	10.2%	47	8.9%	49	8.7%	34	6.2%	22	4.2%	16	2.9%
During last week, did your teacher check your homework on reading?	No	91	16.2%	79	14.9%	91	16.1%	70	12.7%	56	10.8%	61	11.0%
	Yes	465	82.9%	445	84.1%	470	83.3%	478	86.9%	460	88.6%	490	88.6%
	Refuse/No answer	5	0.9%	5	0.9%	3	0.5%	2	0.4%	3	0.6%	2	0.4%
If you need help with your homework, who helps you at home?	No one	18	3.2%	17	3.2%	26	4.6%	31	5.6%	21	4.0%	22	4.0%
	Brother/Sister	223	39.8%	215	40.6%	221	39.2%	210	38.2%	203	39.1%	184	33.3%
	Father/Mother	381	67.9%	339	64.1%	358	63.5%	368	66.9%	327	63.0%	392	70.9%
	Grandfather/Grandmother	48	8.6%	27	5.1%	33	5.9%	43	7.8%	36	6.9%	25	4.5%
	Other	14	2.5%	16	3.0%	13	2.3%	12	2.2%	20	3.9%	19	3.4%
	Refuse/No answer	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.2%
Did you eat something today before going to school?	No	132	23.5%	142	26.8%	137	24.3%	94	17.1%	95	18.3%	109	19.7%
	Yes	429	76.5%	387	73.2%	426	75.5%	456	82.9%	424	81.7%	444	80.3%
	Refuse/No answer	0	0.0%	0	0.0%	1	0.2%	0	0.0%	0	0.0%	0	0.0%
Did you miss school lessons during the last week? IF YES, why?	No, I did not miss lessons	422	75.2%	395	74.7%	422	74.8%	443	80.5%	417	80.3%	471	85.2%
	Yes, I was sick	67	11.9%	75	14.2%	65	11.5%	33	6.0%	28	5.4%	26	4.7%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Yes, I overslept	12	2.1%	7	1.3%	11	2.0%	3	0.5%	13	2.5%	7	1.3%
	Yes, because I had nothing to eat	1	0.2%	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Yes, because I had to take care of a younger sibling	10	1.8%	14	2.6%	12	2.1%	13	2.4%	17	3.3%	18	3.3%
	Yes, because someone at my home was sick and I needed to take care of them	2	0.4%	3	0.6%	4	0.7%	2	0.4%	2	0.4%	4	0.7%
	Yes, because I had to work at home	17	3.0%	10	1.9%	6	1.1%	20	3.6%	10	1.9%	7	1.3%
	Yes, because there was no transport/transport came late	0	0.0%	0	0.0%	0	0.0%	1	0.2%	0	0.0%	0	0.0%
	Yes, because I did not have a school uniform	0	0.0%	0	0.0%	1	0.2%	2	0.4%	2	0.4%	0	0.0%
	Yes, because the student(s)/teacher(s) at school treat me badly	1	0.2%	0	0.0%	2	0.4%	1	0.2%	0	0.0%	1	0.2%
	Yes, because it is dangerous at school	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Yes, because it is very difficult for me to study at school	0	0.0%	5	0.9%	2	0.4%	1	0.2%	4	0.8%	9	1.6%
	Yes, because school is not interesting for me	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.2%
	Yes, because the weather was bad	5	0.9%	4	0.8%	14	2.5%	1	0.2%	3	0.6%	5	0.9%
	Other	29	5.2%	32	6.0%	42	7.4%	30	5.5%	28	5.4%	29	5.2%
	Refuse/No answer	2	0.4%	1	0.2%	5	0.9%	4	0.7%	3	0.6%	0	0.0%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Were you late to school during the last week?	No, I was not late	467	83.2%	415	78.4%	448	79.4%	488	88.7%	460	88.6%	489	88.4%
	Yes, I was sick	3	0.5%	7	1.3%	3	0.5%	1	0.2%	2	0.4%	3	0.5%
	Yes, I overslept	38	6.8%	48	9.1%	62	11.0%	26	4.7%	32	6.2%	35	6.3%
	Yes, because I had nothing to eat	0	0.0%	2	0.4%	1	0.2%	0	0.0%	0	0.0%	1	0.2%
	Yes, because I had to take care of my little brother/sister	14	2.5%	12	2.3%	14	2.5%	8	1.5%	8	1.5%	6	1.1%
	Yes, because I could not find my school uniform	4	0.7%	1	0.2%	4	0.7%	1	0.2%	7	1.3%	4	0.7%
	Yes, because the student(s)/teacher(s) at school treat me badly	0	0.0%	1	0.2%	2	0.4%	0	0.0%	0	0.0%	1	0.2%
	Yes, because the weather was bad	1	0.2%	2	0.4%	1	0.2%	1	0.2%	0	0.0%	0	0.0%
	Yes, because the transport came late	6	1.1%	4	0.8%	13	2.3%	7	1.3%	3	0.6%	7	1.3%
	Other	37	6.6%	43	8.1%	31	5.5%	22	4.0%	12	2.3%	18	3.3%
	Refuse/No answer	2	0.4%	5	0.9%	1	0.2%	3	0.5%	1	0.2%	0	0.0%
Do you take books from your class or from the school library to read at home?	No	250	44.6%	211	39.9%	243	43.1%	175	31.8%	110	21.2%	161	29.1%
	Yes	310	55.3%	316	59.7%	321	56.9%	374	68.0%	409	78.8%	392	70.9%
	Refuse/No answer	1	0.2%	2	0.4%	0	0.0%	1	0.2%	0	0.0%	0	0.0%
Apart from school books and textbooks, do you have books at home that you can read?	No	91	16.2%	88	16.6%	70	12.4%	49	8.9%	54	10.4%	68	12.3%
	Yes	470	83.8%	440	83.2%	493	87.4%	500	90.9%	465	89.6%	485	87.7%
	Refuse/No answer	0	0.0%	1	0.2%	1	0.2%	1	0.2%	0	0.0%	0	0.0%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
How many times in a week do you read at home by yourself?	Never	11	2.0%	12	2.3%	9	1.6%	1	0.2%	6	1.2%	7	1.3%
	Less than once a week	158	28.2%	133	25.1%	145	25.7%	125	22.7%	104	20.0%	123	22.2%
	Once a week	29	5.2%	23	4.3%	36	6.4%	14	2.5%	13	2.5%	24	4.3%
	2-3 times a week	151	26.9%	149	28.2%	157	27.8%	157	28.5%	146	28.1%	159	28.8%
	Daily	209	37.3%	202	38.2%	205	36.3%	250	45.5%	235	45.3%	231	41.8%
	Other	0	0.0%	7	1.3%	7	1.2%	0	0.0%	14	2.7%	6	1.1%
	Refuse/No answer	3	0.5%	3	0.6%	5	0.9%	3	0.5%	1	0.2%	3	0.5%
How many times in a week do you read at home with someone or someone reads to you?	Never	86	15.3%	75	14.2%	67	11.9%	94	17.1%	71	13.7%	69	12.5%
	Less than once a week	227	40.5%	162	30.6%	183	32.4%	217	39.5%	179	34.5%	170	30.7%
	Once a week	29	5.2%	38	7.2%	52	9.2%	26	4.7%	30	5.8%	38	6.9%
	2-3 times a week	116	20.7%	147	27.8%	127	22.5%	107	19.5%	133	25.6%	170	30.7%
	Daily	95	16.9%	97	18.3%	131	23.2%	103	18.7%	98	18.9%	98	17.7%
	Other	1	0.2%	5	0.9%	4	0.7%	2	0.4%	5	1.0%	3	0.5%
	Refuse/No answer	7	1.2%	5	0.9%	0	0.0%	1	0.2%	3	0.6%	5	0.9%
Do you have a place at home where you can do your homework?	No	115	20.5%	130	24.6%	118	20.9%	102	18.5%	119	22.9%	87	15.7%
	Yes	446	79.5%	399	75.4%	446	79.1%	448	81.5%	399	76.9%	466	84.3%
	Refuse/No answer	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.2%	0	0.0%
Do you have the following at your home?	Radio	561	100.0%	528	99.8%	563	99.8%	549	99.8%	518	99.8%	549	99.3%
	TV	219	39.0%	173	32.7%	204	36.2%	214	38.9%	179	34.5%	225	40.7%

Question	Response	Kyrgyz Grade 2						Kyrgyz Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Bike	558	99.5%	524	99.1%	558	98.9%	550	100.0%	513	98.8%	553	100.0%
	Car/Motorcycle	356	63.5%	319	60.3%	348	61.7%	383	69.6%	331	63.8%	367	66.4%
	Toilet inside home	349	62.2%	314	59.4%	355	62.9%	314	57.1%	306	59.0%	315	57.0%
	Electricity	81	14.4%	76	14.4%	102	18.1%	68	12.4%	59	11.4%	91	16.5%
	Computer	109	19.4%	104	19.7%	125	22.2%	108	19.6%	118	22.7%	122	22.1%
	Kitchen inside home	402	71.7%	324	61.2%	400	70.9%	415	75.5%	351	67.6%	412	74.5%
Where do you get drinking water at home?	From a spring/river	103	18.4%	119	22.5%	54	9.6%	88	16.0%	101	19.5%	43	7.8%
	From a well	53	9.4%	56	10.6%	55	9.8%	51	9.3%	52	10.0%	63	11.4%
	From water supply/tap	364	64.9%	331	62.6%	416	73.8%	387	70.4%	335	64.5%	419	75.8%
	From water transporting truck	2	0.4%	4	0.8%	2	0.4%	2	0.4%	0	0.0%	1	0.2%
	From bore hole	32	5.7%	8	1.5%	32	5.7%	20	3.6%	18	3.5%	24	4.3%
	Other	7	1.2%	10	1.9%	4	0.7%	2	0.4%	10	1.9%	2	0.4%
	Refuse/No answer	0	0.0%	1	0.2%	1	0.2%	0	0.0%	3	0.6%	1	0.2%

Table 115: Russian Student Survey by Grade and School Group

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
What language do you usually speak at home?	Kyrgyz	327	59.7%	44	34.6%	212	41.9%	340	62.6%	43.0	33.3%	217	43.7%
	Russian	247	45.1%	42	33.1%	245	48.4%	246	45.3%	62.0	48.1%	225	45.3%
	Uzbek	62	11.3%	29	22.8%	126	24.9%	61	11.2%	28.0	21.7%	137	27.6%
	Tajik	1	0.2%	0	0.0%	9	1.8%	1	0.2%	1.0	0.8%	9	1.8%
	Tatar	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	1	0.2%
	Uigur	1	0.2%	4	3.1%	1	0.2%	0	0.0%	0.0	0.0%	1	0.2%
	Dungan	3	0.5%	7	5.5%	9	1.8%	2	0.4%	10.0	7.8%	6	1.2%
	Other	10	1.8%	7	5.5%	7	1.4%	17	3.1%	11.0	8.5%	10	2.0%
	Refuse/No answer	4	0.7%	4	3.1%	6	1.2%	3	0.6%	0.0	0.0%	1	0.2%
What language do you usually speak at school?	Kyrgyz	47	8.6%	10	7.9%	37	7.3%	61	11.2%	9.0	7.0%	33	6.6%
	Russian	537	98.0%	115	90.6%	485	95.8%	533	98.2%	129.0	100.0%	486	97.8%
	Uzbek	5	0.9%	9	7.1%	31	6.1%	8	1.5%	11.0	8.5%	33	6.6%
	Tajik	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
	Tatar	2	0.4%	0	0.0%	1	0.2%	1	0.2%	1.0	0.8%	0	0.0%
	Uigur	1	0.2%	0	0.0%	1	0.2%	1	0.2%	1.0	0.8%	1	0.2%
	Dungan	5	0.9%	0	0.0%	0	0.0%	2	0.4%	1.0	0.8%	3	0.6%
	Other	0	0.0%	2	1.6%	0	0.0%	2	0.4%	0.0	0.0%	0	0.0%
	Refuse/No answer	5	0.9%	6	4.7%	9	1.8%	1	0.2%	0.0	0.0%	2	0.4%
No	143	26.1%	38	29.9%	102	20.2%	138	25.4%	38.0	29.5%	112	22.5%	

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Before school, did you go to a kindergarten or to preparatory lessons?	Yes	403	73.5%	88	69.3%	397	78.5%	401	73.8%	91.0	70.5%	384	77.3%
	Refuse/No answer	2	0.4%	1	0.8%	7	1.4%	4	0.7%	0.0	0.0%	1	0.2%
What grade are you in?	Grade 1	0	0.0%	1	0.8%	2	0.4%	0	0.0%	0.0	0.0%	0	0.0%
	Grade 2	548	100.0%	126	99.2%	504	99.6%	0	0.0%	0.0	0.0%	0	0.0%
	Grade 3	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
	Grade 4	0	0.0%	0	0.0%	0	0.0%	543	100.0%	129.0	100.0%	497	100.0%
What grade were you in last year?	Prep/Kindergarten	25	4.6%	2	1.6%	23	4.5%	1	0.2%	1.0	0.8%	6	1.2%
	Grade 1	479	87.4%	107	84.3%	419	82.8%	7	1.3%	3.0	2.3%	11	2.2%
	Grade 2	13	2.4%	4	3.1%	17	3.4%	1	0.2%	1.0	0.8%	5	1.0%
	Grade 3	3	0.5%	1	0.8%	3	0.6%	509	93.7%	119.0	92.2%	435	87.5%
	Grade 4	0	0.0%	0	0.0%	0	0.0%	12	2.2%	0.0	0.0%	13	2.6%
	Refuse/No answer	28	5.1%	13	10.2%	44	8.7%	13	2.4%	5.0	3.9%	27	5.4%
Did you study in this school last year?	No	77	14.1%	17	13.4%	68	13.4%	42	7.7%	14.0	10.9%	48	9.7%
	Yes	444	81.0%	105	82.7%	413	81.6%	500	92.1%	114.0	88.4%	444	89.3%
	Refuse/No answer	27	4.9%	5	3.9%	25	4.9%	1	0.2%	1.0	0.8%	5	1.0%
How do you usually get to school?	Walk	403	73.5%	96	75.0%	352	69.6%	422	77.7%	102.0	79.1%	376	75.8%
	Car/Truck/Motorcycle	89	16.2%	19	14.8%	70	13.8%	61	11.2%	3.0	2.3%	48	9.7%
	Public Transport	50	9.1%	11	8.6%	73	14.4%	54	9.9%	23.0	17.8%	65	13.1%
	Other	2	0.4%	0	0.0%	4	0.8%	4	0.7%	1.0	0.8%	2	0.4%

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Refuse/No answer	4	0.7%	2	1.6%	7	1.4%	2	0.4%	0.0	0.0%	5	1.0%
When you go to school or return from school, does somebody from your family accompany you?	No	304	55.5%	67	52.3%	297	58.7%	399	73.5%	84.0	65.1%	364	73.4%
	Yes	234	42.7%	56	43.8%	201	39.7%	132	24.3%	43.0	33.3%	126	25.4%
	Other	7	1.3%	1	0.8%	2	0.4%	11	2.0%	2.0	1.6%	4	0.8%
	Refuse/No answer	3	0.5%	4	3.1%	6	1.2%	1	0.2%	0.0	0.0%	2	0.4%
Do you have a copybook on reading?	No	168	30.7%	20	15.6%	105	20.8%	104	19.2%	8.0	6.2%	84	16.9%
	Yes	378	69.0%	106	82.8%	399	78.9%	438	80.7%	120.0	93.0%	412	83.1%
	Refuse/No answer	2	0.4%	2	1.6%	2	0.4%	1	0.2%	1.0	0.8%	0	0.0%
When you write a test well or give a right answer during a lesson, what does your teacher do?	Nothing	3	0.5%	2	1.6%	4	0.8%	8	1.5%	0.0	0.0%	8	1.6%
	Praise me	201	36.7%	38	29.7%	170	33.6%	297	54.7%	63.0	48.8%	252	50.8%
	Prize	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	2	0.4%
	Good mark	325	59.3%	70	54.7%	299	59.1%	289	53.2%	69.0	53.5%	254	51.2%
	No Chores/Homework	1	0.2%	1	0.8%	2	0.4%	2	0.4%	0.0	0.0%	1	0.2%
	Other	4	0.7%	1	0.8%	13	2.6%	7	1.3%	3.0	2.3%	2	0.4%
	Refuse/No answer	54	9.9%	27	21.1%	59	11.7%	21	3.9%	4.0	3.1%	27	5.4%
If you cannot answer a question or give a wrong answer during a lesson, what does your teacher do?	Nothing	44	8.0%	2	1.6%	44	8.7%	49	9.0%	2.0	1.6%	42	8.5%
	Explains Question	38	6.9%	13	10.2%	34	6.7%	76	14.0%	23.0	17.8%	58	11.7%
	Asks me to try again	30	5.5%	4	3.1%	24	4.7%	35	6.4%	8.0	6.2%	48	9.7%
	Asks another student	31	5.7%	10	7.8%	32	6.3%	43	7.9%	7.0	5.4%	37	7.5%

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Asks the question again	1	0.2%	1	0.8%	1	0.2%	3	0.6%	2.0	1.6%	4	0.8%
	Gives me bad mark	198	36.1%	43	33.6%	192	37.9%	111	20.4%	35.0	27.1%	123	24.8%
	Corrects my answer	40	7.3%	7	5.5%	27	5.3%	59	10.9%	13.0	10.1%	58	11.7%
	Scolds me	78	14.2%	11	8.6%	46	9.1%	80	14.7%	13.0	10.1%	62	12.5%
	Tells me to leave	2	0.4%	0	0.0%	0	0.0%	1	0.2%	0.0	0.0%	0	0.0%
	Puts me in the corner	0	0.0%	0	0.0%	1	0.2%	0	0.0%	0.0	0.0%	0	0.0%
	Teacher hits me	0	0.0%	1	0.8%	3	0.6%	0	0.0%	0.0	0.0%	0	0.0%
	Other	39	7.1%	8	6.3%	34	6.7%	64	11.8%	13.0	10.1%	32	6.5%
	Refuse/No answer	47	8.6%	28	21.9%	68	13.4%	22	4.1%	13.0	10.1%	32	6.5%
During last week, how many times did the teacher give you homework on reading?	Not once	3	0.5%	0	0.0%	8	1.6%	0	0.0%	0.0	0.0%	0	0.0%
	Once	78	14.2%	10	7.8%	78	15.4%	42	7.7%	15.0	11.6%	40	8.1%
	Two times	64	11.7%	20	15.6%	85	16.8%	56	10.3%	10.0	7.8%	63	12.7%
	Three times	142	25.9%	29	22.7%	113	22.3%	219	40.3%	47.0	36.4%	189	38.1%
	Four times	47	8.6%	14	10.9%	37	7.3%	69	12.7%	14.0	10.9%	63	12.7%
	Everyday	85	15.5%	20	15.6%	73	14.4%	64	11.8%	18.0	14.0%	68	13.7%
	Refuse/No answer	129	23.5%	35	27.3%	112	22.1%	93	17.1%	25.0	19.4%	73	14.7%
During last week, did your teacher check your homework on reading?	No	74	13.5%	21	16.4%	63	12.5%	85	15.7%	21.0	16.3%	82	16.5%
	Yes	463	84.5%	104	81.3%	437	86.4%	456	84.0%	105.0	81.4%	410	82.7%
	Refuse/No answer	11	2.0%	3	2.3%	6	1.2%	2	0.4%	3.0	2.3%	4	0.8%

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
If you need help with your homework, who helps you at home?	No one	25	4.6%	5	3.9%	31	6.1%	32	5.9%	6.0	4.7%	42	8.5%
	Brother/Sister	182	33.2%	34	26.6%	122	24.1%	163	30.0%	33.0	25.6%	135	27.2%
	Father/Mother	336	61.3%	85	66.4%	329	65.0%	344	63.4%	96.0	74.4%	332	66.9%
	Grandfather/Grandmother	57	10.4%	13	10.2%	62	12.3%	60	11.0%	7.0	5.4%	50	10.1%
	Other	11	2.0%	4	3.1%	11	2.2%	7	1.3%	4.0	3.1%	7	1.4%
	Refuse/No answer	3	0.5%	2	1.6%	3	0.6%	1	0.2%	0.0	0.0%	0	0.0%
Did you eat something today before going to school?	No	113	20.6%	21	16.4%	80	15.8%	87	16.0%	25.0	19.4%	96	19.3%
	Yes	432	78.8%	107	83.6%	423	83.8%	456	84.0%	104.0	80.6%	401	80.7%
	Refuse/No answer	3	0.5%	0	0.0%	2	0.4%	0	0.0%	0.0	0.0%	0	0.0%
Did you miss school lessons during the last week? IF YES, why?	No, I did not miss lessons	364	66.4%	95	74.2%	343	67.9%	424	78.1%	105.0	81.4%	404	81.3%
	Yes, I was sick	107	19.5%	16	12.5%	86	17.0%	58	10.7%	13.0	10.1%	54	10.9%
	Yes, I overslept	24	4.4%	2	1.6%	25	5.0%	9	1.7%	2.0	1.6%	8	1.6%
	Yes, because I had nothing to eat	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
	Yes, because I had to take care of a younger sibling	5	0.9%	0	0.0%	4	0.8%	11	2.0%	3.0	2.3%	6	1.2%
	Yes, because someone at my home was sick and I needed to take care of them	4	0.7%	0	0.0%	2	0.4%	4	0.7%	0.0	0.0%	1	0.2%
	Yes, because I had to work at home	2	0.4%	0	0.0%	2	0.4%	5	0.9%	0.0	0.0%	3	0.6%
	Yes, because there was no	2	0.4%	0	0.0%	2	0.4%	0	0.0%	1.0	0.8%	0	0.0%

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	transport/transport came late												
	Yes, because I did not have a school uniform	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
	Yes, because the student(s)/ teacher(s) at school treat me badly	3	0.5%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
	Yes, because it is dangerous at school	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	1	0.2%
	Yes, because it is very difficult for me to study at school	0	0.0%	0	0.0%	1	0.2%	0	0.0%	0.0	0.0%	1	0.2%
	Yes, because school is not interesting for me	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
	Yes because the weather was bad	1	0.2%	0	0.0%	1	0.2%	0	0.0%	0.0	0.0%	0	0.0%
	Other	35	6.4%	8	6.3%	29	5.7%	33	6.1%	6.0	4.7%	21	4.2%
	Refuse/No answer	14	2.6%	7	5.5%	20	4.0%	7	1.3%	2.0	1.6%	3	0.6%
Were you late to school during the last week?	No, I was not late	406	74.1%	94	73.4%	375	74.3%	434	79.9%	102.0	79.1%	404	81.3%
	Yes, I was sick	9	1.6%	3	2.3%	2	0.4%	4	0.7%	1.0	0.8%	4	0.8%
	Yes, I overslept	81	14.8%	14	10.9%	58	11.5%	52	9.6%	5.0	3.9%	52	10.5%
	Yes, because I had nothing to eat	0	0.0%	0	0.0%	0	0.0%	1	0.2%	0.0	0.0%	0	0.0%
	Yes, because I had to take care of my little brother/sister	7	1.3%	2	1.6%	11	2.2%	12	2.2%	7.0	5.4%	10	2.0%
	Yes, because I could not find my school uniform	1	0.2%	1	0.8%	2	0.4%	0	0.0%	0.0	0.0%	1	0.2%

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Yes, because the student(s)/ teacher(s) at school treat me badly	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
	Yes, because the weather was bad	0	0.0%	0	0.0%	1	0.2%	0	0.0%	0.0	0.0%	1	0.2%
	Yes, because the transport came late	14	2.6%	1	0.8%	13	2.6%	13	2.4%	1.0	0.8%	7	1.4%
	Other	26	4.7%	11	8.6%	32	6.3%	27	5.0%	13.0	10.1%	21	4.2%
	Refuse/No answer	12	2.2%	5	3.9%	15	3.0%	4	0.7%	1.0	0.8%	4	0.8%
Do you take books from your class or from the school library to read at home?	No	280	51.1%	71	55.5%	223	44.2%	225	41.4%	62.0	48.1%	197	39.6%
	Yes	260	47.4%	52	40.6%	266	52.7%	317	58.4%	67.0	51.9%	297	59.8%
	Refuse/No answer	8	1.5%	5	3.9%	16	3.2%	1	0.2%	0.0	0.0%	3	0.6%
Apart from school books and textbooks, do you have books at home that you can read?	No	48	8.8%	20	15.6%	54	10.7%	42	7.7%	4.0	3.1%	33	6.6%
	Yes	497	90.7%	107	83.6%	449	88.9%	499	91.9%	125.0	96.9%	461	92.8%
	Refuse/No answer	3	0.5%	1	0.8%	2	0.4%	2	0.4%	0.0	0.0%	3	0.6%
How many times in a week do you read at home by yourself?	Never	8	1.5%	4	3.1%	9	1.8%	9	1.7%	3.0	2.3%	8	1.6%
	Less than once a week	2	0.4%	0	0.0%	6	1.2%	3	0.6%	0.0	0.0%	4	0.8%
	Once a week	56	10.2%	16	12.5%	49	9.7%	27	5.0%	10.0	7.8%	35	7.0%
	2-3 times a week	221	40.3%	48	37.5%	189	37.4%	245	45.1%	59.0	45.7%	212	42.7%
	Daily	158	28.8%	35	27.3%	156	30.9%	187	34.4%	34.0	26.4%	174	35.0%
	Other	66	12.0%	13	10.2%	65	12.9%	61	11.2%	19.0	14.7%	51	10.3%
	Refuse/No answer	37	6.8%	12	9.4%	31	6.1%	11	2.0%	4.0	3.1%	13	2.6%

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
How many times in a week do you read at home with someone or someone reads to you?	Never	168	30.7%	36	28.1%	176	34.9%	189	34.8%	38.0	29.5%	201	40.4%
	Less than once a week	8	1.5%	0	0.0%	8	1.6%	9	1.7%	2.0	1.6%	3	0.6%
	Once a week	85	15.5%	20	15.6%	71	14.1%	54	9.9%	14.0	10.9%	38	7.6%
	2-3 times a week	155	28.3%	37	28.9%	124	24.6%	179	33.0%	46.0	35.7%	154	31.0%
	Daily	55	10.0%	13	10.2%	57	11.3%	58	10.7%	13.0	10.1%	61	12.3%
	Other	46	8.4%	12	9.4%	44	8.7%	39	7.2%	8.0	6.2%	26	5.2%
	Refuse/No answer	31	5.7%	10	7.8%	25	5.0%	15	2.8%	8.0	6.2%	14	2.8%
Do you have a place at home where you can do your homework?	No	37	6.8%	13	10.2%	42	8.3%	33	6.1%	6.0	4.7%	30	6.0%
	Yes	499	91.1%	111	86.7%	451	89.3%	506	93.2%	123.0	95.3%	465	93.6%
	Refuse/No answer	12	2.2%	4	3.1%	12	2.4%	4	0.7%	0.0	0.0%	2	0.4%
Do you have the following at your home?	Radio	539	98.4%	124	96.9%	496	98.2%	539	99.3%	129.0	100.0%	492	99.0%
	TV	250	45.6%	45	35.2%	218	43.2%	250	46.0%	56.0	43.4%	226	45.5%
	Bike	545	99.5%	126	98.4%	500	99.0%	540	99.4%	126.0	97.7%	492	99.0%
	Car/Motorcycle	377	68.8%	80	62.5%	354	70.1%	383	70.5%	89.0	69.0%	347	69.8%
	Toilet inside home	374	68.2%	84	65.6%	374	74.1%	363	66.9%	90.0	69.8%	367	73.8%
	Electricity	169	30.8%	54	42.2%	216	42.8%	168	30.9%	57.0	44.2%	197	39.6%
	Computer	226	41.2%	45	35.2%	224	44.4%	225	41.4%	63.0	48.8%	218	43.9%
	Kitchen inside home	450	82.1%	101	78.9%	428	84.8%	457	84.2%	105.0	81.4%	415	83.5%
From a spring/river	7	1.3%	5	3.9%	20	4.0%	10	1.8%	4.0	3.1%	28	5.6%	

Question	Response	Russian Grade 2						Russian Grade 4					
		QRP ONLY		TTR+QRP		TTR		QRP ONLY		TTR+QRP		TTR	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Where do you get drinking water at home?	From a well	91	16.6%	7	5.5%	38	7.5%	87	16.0%	10.0	7.8%	54	10.9%
	From water supply/tap	412	75.2%	101	78.9%	406	80.4%	408	75.1%	102.0	79.1%	391	78.7%
	From water transporting truck	3	0.5%	0	0.0%	4	0.8%	2	0.4%	1.0	0.8%	3	0.6%
	From bore hole	5	0.9%	0	0.0%	6	1.2%	14	2.6%	0.0	0.0%	2	0.4%
	Other	18	3.3%	11	8.6%	24	4.8%	18	3.3%	12.0	9.3%	16	3.2%
	Refuse/No answer	12	2.2%	4	3.1%	7	1.4%	4	0.7%	0.0	0.0%	3	0.6%

Table 116: Student Background Factors Associated with Reading Outcomes by Grade and Language

Dependent Variable: Oral Reading Fluency	Kyrgyz		Russian	
	Grade 2	Grade 4	Grade 2	Grade 4
Independent Variables:	β value (t-statistic)	β value (t-statistic)	β value (t-statistic)	β value (t-statistic)
Gender (girl)	8.35 (9.00)***	15.51 (11.91)***	4.25 (3.76)***	12.24 (6.68)***
Location (rural)	1.12 (1.65)	3.97 (3.92)***	3.55 (5.03)***	4.88 (4.23)***
Socioeconomic status index	0.59 (1.70)	1.45 (2.89)**	1.92 (4.59)***	3.52 (5.12)***
Russian spoken at home	---	---	4.57 (3.98)***	7.84 (4.26)***
Bringing books home from school	3.68 (3.87)***	2.14 (1.42)	---	---
Reading at home on one's own	3.95 (4.11)***	4.16 (3.11)**	2.10 (1.62)	5.02 (2.60)*
Homework on reading three or more times in last week	2.12 (2.29)*	5.81 (4.22)***	2.41 (2.13)*	5.32 (2.81)**
Constant	27.55 (14.61)***	46.60 (15.12)***	23.29 (9.19)***	24.49 (5.81)***
R2	0.08	0.11	0.09	0.11
Sample size	1651	1620	1178	1167

Legend of statistical significance: one asterisk (*) indicates $p < 0.05$; two asterisks (**) indicates $p < 0.01$; three asterisks (***) indicates $p < 0.001$.

Annex K: Detailed SSME tables

Table 117: Head Teacher Survey Frequencies

Question	Responses	Kyrgyz N= 160		Russian N= 126	
		Count	%	Count	%
Gender	Male	30	18.8%	11	8.8%
	Female	130	81.3%	114	91.2%
How many years have you worked in this position?	0 to 5 years	108	67.5%	72	57.6%
	6 to 10 years	37	23.1%	28	20.0%
	More than 10 years	8	9.4%	25	22.4%
What is your highest level of education?	Specialized basic education	4	2.5%	2	1.6%
	Higher education (diploma)	154	96.3%	123	98.4%
	Master degree	2	1.3%	0	0%
Have you finished a specialized training course on school management?	No	58	36.3%	43	34.4%
	Yes	98	61.2%	80	64.0%
	I don't know/Refuse to answer	4	2.5%	2	1.6%
When a teacher doesn't come to school, what do you do with that teacher's class?	I assign another teacher to this class	157	98.1%	111	88.8%
	I involve teachers who volunteer	7	4.4%	18	14.4%
	I join the students of several classes	1	0.6%	1	0.8%
	I let the students go home for this day	0	0.0%	1	0.8%
	I send the students to the playground	0	0.0%	1	0.8%
	I divide the students among other classes	1	0.6%	0	0.0%
	Other	6	3.8%	2	1.6%
Do you have a journal where you mark teachers' coming to school?	The school doesn't have such a journal	43	26.9%	45	36.0%
	The journal was not there to see	5	3.1%	17	13.6%
	The journal is filled in each day	91	56.9%	50	40.0%
	The journal is filled in once a week	7	4.4%	1	0.8%
	The journal is filled in once a month	2	1.3%	1	0.8%
	The journal is filled in once a quarter	1	0.6%	0	0.0%

Question	Responses	Kyrgyz N= 160		Russian N= 126	
		Count	%	Count	%
	Other	11	6.9%	11	8.8%
Do you collect information about students' class attendance from all classes for keeping registration for the whole school? If you do collect it, then how many times?	No, I don't collect it	3	1.9%	2	1.6%
	Once a year	0	0.0%	0	0.0%
	Once in a half year	0	0.0%	0	0.0%
	Once in a quarter	2	1.3%	2	1.6%
	Once in a month	2	1.3%	5	4.0%
	Once in a week	11	6.9%	12	9.6%
	Every day	134	83.8%	99	79.2%
	Other	8	5.0%	5	4.0%
Do you or does somebody else check the teachers' lesson plans? If you do, then how many times?	No, I don't check them	0	0.0%	0	0.0%
	Once a year	0	0.0%	0	0.0%
	Once in a half year	0	0.0%	1	0.8%
	Once in a quarter	0	0.0%	2	1.6%
	Once in a month	3	1.9%	5	4.0%
	Once in a week	20	12.5%	20	16.0%
	Every day	136	85.0%	91	72.8%
	Other	1	0.6%	6	4.8%
Do you (or somebody else, for example, the methodologist or senior teacher) attend teachers' lessons to observe them?	Never	3	1.9%	0	0.0%
	Once a year	0	0.0%	0	0.0%
	Once in a half year	0	0.0%	1	0.8%
	Once in a quarter	13	8.1%	5	4.0%
	Once in a month	21	13.1%	17	13.6%
	Once in a week	104	65.0%	70	56.0%
	Every day	19	11.9%	29	23.2%
	Other	0	0.0%	3	2.4%
In what way do you collect information about the students'	Final assessments (for one quarter, one half-year, or one year)	122	76.3%	71	56.8%

Question	Responses	Kyrgyz N= 160		Russian N= 126	
		Count	%	Count	%
academic achievements?	Teachers' reports	116	72.5%	45	36.0%
	Monitoring of the results of tests and control works conducted by the teacher	104	65.0%	86	68.8%
	The teachers submit me the lists of students' marks and points	70	43.8%	37	29.6%
	The indicators of student knowledge on school level or country level	13	8.1%	59	47.2%
	Conducting observation in class	24	15.0%	16	12.8%
	I ask students orally myself	22	13.8%	5	4.0%
	Other	16	10.0%	4	3.2%
In the beginning of this school year, were there enough reading textbooks for all students of the elementary grades?	No	50	31.3%	65	52.0%
	Yes	108	67.5%	58	46.4%
	I don't know/Refuse to answer	2	1.3%	2	1.6%
How does your school solve the problem of lack of textbooks in elementary grades?	We always have enough textbooks	6	3.8%	10	8.0%
	We ask the parents to buy textbooks	134	83.8%	105	84.0%
	We buy textbooks for the money from the school fund	7	4.4%	3	2.4%
	We use donor help (projects, sponsors)	8	5.0%	2	1.6%
	Other	5	3.1%	5	4.0%
Does your school have a library?	No	7	4.4%	3	2.4%
	Yes	153	95.6%	122	97.6%
Are the books from the library available for the students of the elementary grades?	No	41	25.6%	13	10.4%
	Yes	111	69.4%	109	87.2%
	I don't know/Refuse to answer	1	0.6%	0	0.0%
	Missing	7	4.4%	3	2.4%
	Never	0	0.0%	1	0.8%

Question	Responses	Kyrgyz N= 160		Russian N= 126	
		Count	%	Count	%
How many times a week is the library open for the students of the elementary grades?	Once a week	0	0.0%	1	0.8%
	Twice a week	6	3.8%	6	4.8%
	Three times a week	4	2.5%	3	2.4%
	Four times a week	5	3.1%	3	2.4%
	Five times a week	128	80.0%	90	72.0%
	Six times a week	9	5.6%	17	13.6%
	I don't know/Refuse to answer	1	0.6%	1	0.8%
	Missing	7	4.4%	3	2.4%
In your opinion, how often do the students take books from the library (on average)?	Once in a month	18	11.3%	17	13.6%
	Once in a week	96	60.0%	64	51.2%
	Every day	31	19.4%	16	12.8%
	Other	5	3.1%	16	12.8%
	I don't know/Refuse to answer	3	1.9%	9	7.2%
	Missing	7	4.4%	3	2.4%
Does the librarian have specialized training in library science?	No	95	59.4%	64	51.2%
	Yes	55	34.4%	48	38.4%
	I don't know/Refuse to answer	3	1.9%	10	8.0%
	Missing	7	4.4%	3	2.4%
Does the librarian allow the students of elementary grades to take books home?	No	2	1.3%	3	2.4%
	Yes	151	94.4%	118	94.4%
	I don't know/Refuse to answer	0	0.0%	1	0.8%
	Missing	7	4.4%	3	2.4%
Students of what elementary grades can take library books home?	1	57	35.6%	45	36.0%
	2	121	75.6%	89	71.2%
	3	136	85.0%	115	92.0%
	4	138	86.3%	119	95.2%

Question	Responses	Kyrgyz N= 160		Russian N= 126	
		Count	%	Count	%
	I don't know/Refuse to answer	1	0.6%	2	1.6%
	Missing	7	4.4%	3	2.4%
How often does the librarian of your school conduct different activities on reading with the students of elementary grades?	Never	13	8.1%	6	4.8%
	Once in a year	19	11.9%	10	8.0%
	Once in a half year	28	17.5%	15	12.0%
	Once in a quarter	42	26.3%	36	28.8%
	Once in a month	43	26.9%	35	28.0%
	Once in a week	6	3.8%	7	5.6%
	Every day	0	0.0%	2	1.6%
	Other (Please, specify)	2	1.3%	9	7.2%
	I don't know/Refuse to answer	0	0.0%	2	1.6%
	Missing	7	4.4%	3	2.4%
From what sources is the library fund of your school replenished?	Rayon or city department of education	109	68.1%	64	51.2%
	Projects or international donors	95	59.4%	48	38.4%
	Sponsor support (parents, philanthropists)	86	53.8%	66	52.8%
	Ministry of education	49	30.6%	43	34.4%
	Other	7	4.4%	23	18.4%
	I don't know/Refuse to answer	3	1.9%	0	0.0%
	Missing	7	4.4%	3	2.4%
In your personal opinion, in what grade should children learn to read fluently?	Before school	0	0.0%	0	0.0%
	1 class	74	46.3%	34	27.2%
	2 class	78	48.8%	70	56.0%
	3 class	7	4.4%	16	12.8%
	4 class	1	0.6%	5	4.0%
	After 4 class	0	0.0%	0	0.0%
	I don't know/Refuse to answer	0	0.0%	0	0.0%
	Before school	6	3.8%	5	4.0%

Question	Responses	Kyrgyz N= 160		Russian N= 126	
		Count	%	Count	%
In your personal opinion, in what grade should children learn to write?	1 class	141	88.1%	110	88.0%
	2 class	12	7.5%	8	6.4%
	3 class	1	0.6%	1	0.8%
	4 class	0	0.0%	1	0.8%
	After 4 class	0	0.0%	0	0.0%
	I don't know/Refuse to answer	0	0.0%	0	0.0%
Is there a board of trustees in your school?	No	34	21.3%	18	14.4%
	Yes	126	78.8%	105	84.0%
	I don't know/Refuse to answer	0	0.0%	2	1.6%
If there is a board of trustees, how many times did the board of trustees meet in this/last school year?	It did not meet at all	4	2.5%	1	0.8%
	Once in a year	7	4.4%	0	0.0%
	Once in a half year	44	27.5%	20	16.0%
	Once in a quarter	66	41.3%	61	48.8%
	Once in a month	3	1.9%	11	8.8%
	Once in a week	0	0.0%	2	1.6%
	I don't know/Refuse to answer	2	1.3%	10	8.0%
	Not applicable	34	21.3%	20	16.0%
Does each class have a parental committee?	No	0	0.0%	0	0.0%
	Yes	160	100.0%	125	100.0%
	I don't know/Refuse to answer	0	0.0%	0	0.0%
In general, does the rayon/city department of education promptly reply to your school's requests for support?	Never	8	5.0%	9	7.2%
	Sometimes	42	26.3%	47	37.6%
	Always	107	66.9%	64	51.2%
	I don't know/Refuse to answer	3	1.9%	5	4.0%
In this/last school year, how many times did a representative	Didn't come at all	2	1.3%	1	0.8%
	Once in a year	7	4.4%	4	3.2%

Question	Responses	Kyrgyz N= 160		Russian N= 126	
		Count	%	Count	%
of the rayon/city department of education come to your school?	Once in a half year	29	18.1%	11	8.8%
	Once in a quarter	74	46.3%	43	34.4%
	Once in a month	44	27.5%	53	42.4%
	Once in a week	4	2.5%	11	8.8%
	I don't know/Refuse to answer	0	0.0%	2	1.6%

Table 118: Head Teacher Means

Question	Kyrgyz					Russian				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Head teacher perception of school safety index ⁴²	160	0.00	4.00	3.29	0.86	125	0.00	4.00	3.22	0.78

⁴² Teachers and head teachers were asked several questions related to the safety of the school environment, including: whether there were threats to student safety at the school or on the way to school, whether students were safe when they were in school, and whether the teachers, themselves, felt safe at the school. “Yes” responses to these survey items were reverse coded and combined to form a four-point index. Higher index scores indicate more positive perceptions of school safety.

Table 119: Teacher Survey Frequencies

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N=125	
		Count	%	Count	%	Count	%	Count	%
Gender	Male	5	3.0%	1	0.6%	0	0.0%	0	0.0%
	Female	161	97.0%	164	99.4%	123	100.0%	125	100.0%
Did you teach this same class last year?	No	28	16.9%	23	13.9%	24	19.5%	20	16.0%
	Yes	138	83.1%	142	86.1%	99	80.5%	105	84.0%
How many shifts do you work a day?	1 shift	136	81.9%	128	77.6%	60	48.8%	61	48.8%
	2 shifts	29	17.5%	37	22.4%	63	51.2%	63	50.4%
	3 shifts	1	0.6%	0	0.0%	0	0.0%	1	0.8%
What language do you consider to be your native language?	Kyrgyz	157	94.6%	159	96.4%	49	39.8%	48	38.4%
	Russian	2	1.2%	1	0.6%	40	32.5%	42	33.6%
	Uzbek	5	3.0%	4	2.4%	22	17.9%	20	16.0%
	Tajik	1	0.6%	1	0.6%	6	4.9%	7	5.6%
	Tatar	0	0.0%	0	0.0%	0	0.0%	2	1.6%
	Uigur	0	0.0%	0	0.0%	0	0.0%	2	1.6%
	Dungan	1	0.6%	0	0.0%	0	0.0%	1	0.8%
	Other	0	0.0%	0	0.0%	6	4.9%	3	2.4%
	Basic education	2	1.2%	0	0.0%	1	0.8%	2	1.6%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
What is your highest level of education?	Specialized basic education	36	21.7%	22	13.3%	26	21.1%	18	14.4%
	Higher education (diploma)	123	74.1%	139	84.2%	89	72.4%	105	84.0%
	Bachelor degree	1	0.6%	1	0.6%	3	2.4%	0	0.0%
	Master's degree	1	0.6%	1	0.6%	0	0.0%	0	0.0%
	Other	3	1.8%	2	1.2%	4	3.3%	0	0.0%
How many years have you worked in teaching?	0-3 years	22	13.3%	15	9.1%	18	14.6%	10	8.0%
	4-8 years	25	15.1%	17	10.3%	20	16.3%	13	10.4%
	9 years or more	119	71.7%	133	80.6%	85	69.1%	102	81.6%
Do you have a professional qualification (for example, certificate of qualification advancement training or a professional category)?	No	41	24.7%	35	21.2%	35	28.5%	24	19.2%
	Yes	125	75.3%	130	78.8%	88	71.5%	101	80.8%
Do you have pedagogical education to teach in elementary grades?	No	7	4.2%	5	3.0%	28	22.8%	31	24.8%
	Yes	159	95.8%	160	97.0%	95	77.2%	94	75.2%
During your work in school, have you completed any course(s) on teaching reading?	No	39	23.5%	29	17.6%	26	21.1%	18	14.4%
	Yes	127	76.5%	136	82.4%	97	78.9%	107	85.6%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
To what extent do you apply what you learned in that course in your work?	Never apply it	0	0.0%	0	0.0%	1	0.8%	0	0.0%
	Sometimes apply it	16	9.6%	15	9.1%	18	14.6%	26	20.8%
	Often apply it	87	52.4%	95	57.6%	38	30.9%	45	36.0%
	Always apply it	24	14.5%	26	15.8%	40	32.5%	36	28.8%
	Not applicable	39	23.5%	29	17.6%	26	21.1%	18	14.4%
What did the course on teaching reading include?	Basic skills of reading (fluent reading, expressive reading)	118	71.1%	120	72.7%	83	67.5%	89	71.2%
	Pedagogical methods of teaching reading	66	39.8%	71	43.0%	17	13.8%	22	17.6%
	Interactive methods in teaching reading	52	31.3%	60	36.4%	49	39.8%	39	31.2%
	Development of visual aids	41	24.7%	44	26.7%	12	9.8%	16	12.8%
	Formative assessment	38	22.9%	53	32.1%	27	22.0%	31	24.8%
	Organization of out-of-class reading	35	21.1%	46	27.9%	11	8.9%	24	19.2%
	Communicative competence	30	18.1%	29	17.6%	6	4.9%	7	5.6%
	Student-oriented approach	30	18.1%	36	21.8%	5	4.1%	8	6.4%
	Developmental psychology	25	15.1%	26	15.8%	11	8.9%	6	4.8%
	Other	1	0.6%	1	0.6%	10	8.1%	9	7.2%
	I don't know/Refuse to answer	0	0.0%	0	0.0%	1	0.8%	3	2.4%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
	Not applicable	39	23.5%	29	17.6%	26	21.1%	18	14.4%
Do you have joint classes in your school?	No	156	94.0%	156	94.5%	121	98.4%	123	98.4%
	Yes	10	6.0%	9	5.5%	2	1.6%	2	1.6%
May I see your class journal, please?	The journal was not available	1	0.6%	1	0.6%	8	6.5%	6	4.8%
	Attendance is marked every day	162	97.6%	163	98.8%	106	86.2%	109	87.2%
	Attendance is marked once in a week	0	0.0%	1	0.6%	4	3.3%	3	2.4%
	Attendance is marked once in a month	1	0.6%	0	0.0%	2	1.6%	4	3.2%
	Attendance is marked once in a quarter	0	0.0%	0	0.0%	3	2.4%	2	1.6%
	Other	2	1.2%	0	0.0%	0	0.0%	1	0.8%
Do you cooperate with other teachers on the following?	Methods of teaching reading	163	98.2%	158	95.8%	119	96.7%	112	89.6%
	Out-of class activities	162	97.6%	160	97.0%	119	96.7%	115	92.0%
	Lesson plans	162	97.6%	162	98.2%	116	94.3%	112	89.6%
	Administrative issues	149	89.8%	150	90.9%	115	93.5%	116	92.8%
Does the head teacher or the head of the	No	0	0.0%	1	0.6%	0	0.0%	0	0.0%
	Yes	166	100.0%	164	99.4%	123	100.0%	125	100.0%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
methodological unit check your lesson plans?	I don't know/Refuse to answer	0	0.0%	0	0.0%	0	0.0%	0	0.0%
If the head teacher or head of the methodological unit checks lesson plans, how often?	Once in a quarter	0	0.0%	2	1.2%	3	2.4%	1	0.8%
	Once in a month	5	3.0%	5	3.0%	1	0.8%	5	4.0%
	Once in a week	18	10.8%	15	9.1%	28	22.8%	30	24.0%
	Every day	143	86.1%	142	86.6%	87	70.7%	87	69.6%
	Other	0	0.0%	0	0.0%	4	3.3%	2	1.6%
When you need advice or help with teaching, whom do you address?	Head teacher	40	24.1%	50	30.3%	47	38.2%	37	29.6%
	Methodologist (Head of methodological unit)	41	24.7%	45	27.3%	18	14.6%	19	15.2%
	Mentor and/or senior teacher	40	24.1%	26	15.8%	30	24.4%	26	20.8%
	I discuss it with colleagues informally	23	13.9%	19	11.5%	18	14.6%	23	18.4%
	Parents	6	3.6%	10	6.1%	3	2.4%	2	1.6%
	Teachers' general meeting	3	1.8%	1	0.6%	2	1.6%	4	3.2%
	I address education specialists or subject specialists	4	2.4%	4	2.4%	0	0.0%	3	2.4%
	I never need any help	6	3.6%	5	3.0%	2	1.6%	1	0.8%
	Other	3	1.8%	5	3.8%	3	2.4%	10	8.0%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N=125	
		Count	%	Count	%	Count	%	Count	%
From what sources do you receive methodological and didactic materials?	Internet	108	65.1%	150	63.6%	102	82.9%	101	80.8%
	Library	106	63.9%	114	69.1%	41	33.3%	44	35.2%
	I buy them myself, with my own money	96	57.8%	91	55.2%	57	46.3%	54	43.2%
	I make them myself	87	52.4%	90	54.5%	29	23.6%	38	30.4%
	Projects/ International organizations	53	31.9%	61	37.0%	9	7.3%	14	11.2%
	From the rayon/city department of education	20	12.0%	18	10.9%	2	1.6%	6	4.8%
	The school provides them	17	10.2%	8	4.8%	11	8.9%	14	11.2%
	Sponsor support (parents, philanthropists)	18	10.8%	14	8.5%	2	1.6%	3	2.4%
	Other	6	3.6%	9	5.5%	8	6.5%	9	7.2%
How often did the head teacher or the head of the methodological unit come to one of your classes to observe during last academic year?	Never	0	0.0%	1	0.6%	2	1.6%	0	0.0%
	Once a year	1	0.6%	0	0.0%	0	0.0%	3	2.4%
	Once in a half year	5	3.0%	8	4.8%	4	3.3%	5	4.0%
	Once in a quarter	44	26.5%	47	28.5%	28	22.8%	33	26.4%
	Once in a month	73	44.0%	76	46.1%	42	34.1%	43	34.4%
	Once in a week	38	22.9%	27	16.4%	32	26.0%	33	26.4%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
	Every day	0	0.0%	0	0.0%	2	1.6%	0	0.0%
	Other	4	2.4%	6	3.6%	13	10.6%	8	6.4%
	I don't know/Refuse to answer	1	0.6%	0	0.0%	0	0.0%	0	0.0%
Since the beginning of this school year, did a representative of the Ministry of Education or the rayon/city department of education visit your school? If yes, how often?	Never	42	25.3%	39	23.6%	5	4.1%	8	6.4%
	Once a year	35	21.1%	27	16.4%	7	5.7%	2	1.6%
	Once in a half year	28	16.9%	31	18.8%	23	18.7%	20	16.0%
	Once in a quarter	36	21.7%	34	20.6%	36	29.3%	46	36.8%
	Once in a month	11	6.6%	26	15.8%	19	15.4%	30	24.0%
	Once in a week	3	1.8%	0	0.0%	7	5.7%	2	1.6%
	Every day	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other	3	1.8%	3	1.8%	5	4.1%	6	4.8%
	I don't know/Refuse to answer	8	4.8%	5	3.0%	21	17.1%	11	8.8%
How do you evaluate learning progress of your students?	Final evaluations (for a quarter, half-year, or a year)	123	74.1%	124	75.2%	45	36.6%	46	36.8%
	Oral evaluation	121	72.9%	106	64.2%	96	78.0%	93	74.4%
	Home assignments	83	50.0%	84	50.9%	72	58.5%	64	51.2%
	Written tests	81	48.8%	97	58.8%	81	65.9%	86	68.8%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
	Portfolio and other projects	34	20.5%	38	23.0%	10	8.1%	10	8.0%
	Other	12	7.2%	16	9.7%	16	13.0%	19	15.2%
	I don't know/Refuse to answer	1	0.6%	0	0.0%	1	0.8%	3	2.4%
What could be changed to make teaching reading in your school more successful?	Factors related to school	84	50.6%	82	49.7%	58	47.2%	58	46.4%
	Factors related to students	61	36.7%	54	32.7%	41	33.3%	35	28.0%
	Factors related to the teacher	66	39.8%	77	46.7%	11	8.9%	10	8.0%
	Other	50	30.1%	50	30.3%	61	49.6%	65	52.0%
	I don't know/Refuse to answer	2	1.2%	1	0.6%	9	7.3%	4	3.2%
How do you use the results of the written and/or oral evaluations of the students' knowledge?	To evaluate how well a student knows the subject	118	71.1%	128	77.6%	98	79.7%	89	71.2%
	To give scores	88	53.0%	89	53.9%	57	46.3%	54	43.2%
	To plan further teaching	66	39.8%	71	43.0%	36	29.3%	46	36.8%
	Other	15	9.0%	13	7.9%	6	4.9%	7	5.6%
	I don't know/Refuse to answer	1	0.6%	1	0.6%	1	0.8%	4	3.2%
What proportion of parents or guardians controls how students do their homework?	None	0	0.0%	0	0.0%	1	0.8%	3	2.4%
	Some	34	20.5%	42	25.5%	44	35.8%	47	37.6%
	Majority	121	72.9%	114	69.1%	61	49.6%	72	57.6%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
	All	11	6.6%	9	5.5%	17	13.8%	3	2.4%
What part of parents in your class actively participates in their children's school life?	None	1	0.6%	1	0.6%	2	1.6%	2	1.6%
	Some	49	29.5%	45	27.3%	58	47.2%	67	53.6%
	Majority	111	66.9%	112	67.9%	56	45.5%	53	42.4%
	All	5	3.0%	7	4.2%	7	5.7%	3	2.4%
How often did the parental committee of your class meet in this academic year?	Never	0	0.0%	1	0.6%	0	0.0%	0	0.0%
	Once a year	0	0.0%	1	0.6%	0	0.0%	0	0.0%
	Once in a half year	8	4.8%	6	3.6%	6	4.9%	3	2.4%
	Once in a quarter	130	78.3%	129	78.2%	83	67.5%	86	68.8%
	Once in a month	24	14.5%	25	15.2%	22	17.9%	20	16.0%
	Once in a week	1	0.6%	0	0.0%	3	2.4%	0	0.0%
	Other	2	1.2%	3	1.8%	7	5.7%	15	12.0%
	I don't know/Refuse to answer	1	0.6%	0	0.0%	2	1.6%	1	0.8%
On what issues can the parental committee make decisions and/or is responsible for?	Discussing and resolving students' problems	117	70.5%	117	70.9%	74	60.2%	82	65.6%
	Food issues	101	60.8%	109	66.1%	42	34.1%	24	19.2%
	Fundraising	92	55.4%	84	50.9%	68	55.3%	60	48.0%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
	Sanitary conditions in the school	62	37.3%	72	43.6%	22	17.9	15	12.0%
	Organization of procurement and/or distribution of textbooks	56	33.7%	53	32.1%	45	36.6%	48	38.4%
	Internal regulations in the school	32	19.3%	53	32.1%	6	4.9%	13	10.4%
	Revision of school budget	26	15.7%	24	14.5%	14	11.4%	12	9.6%
	Discussing the problems of school management	23	13.9%	17	10.3%	13	10.6%	18	14.4%
	Monitoring of measures to improve the school's work	21	12.7%	26	15.8%	7	5.7%	9	7.2%
	Management of school infrastructure/equipment	19	11.4%	19	11.5%	7	5.7%	7	5.6%
	Discussing the school's academic program	15	9.0%	19	11.5%	17	13.8%	16	12.8%
	Other	3	1.8%	2	1.2%	11	8.9%	10	8.0%
	I don't know/Refuse to answer	3	1.8%	0	0.0%	5	4.1%	4	3.2%
Do you usually receive your salary on time?	No	0	0.0%	2	1.2%	0	0.0%	1	0.8%
	Yes	165	99.4%	163	98.8%	122	99.2%	124	99.2%

Question	Responses	Kyrgyz				Russian			
		Grade 2 N= 166		Grade 4 N= 165		Grade 2 N=123		Grade 4 N= 125	
		Count	%	Count	%	Count	%	Count	%
	I don't know/Refuse to answer	1	0.6%	0	0.0%	1	0.8%	0	0.0%
In your personal opinion, in what grade children should learn to read fluently?	Before school	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	1 class	56	33.7%	66	40.2%	22	17.9%	28	22.4%
	2 class	102	61.4%	75	45.7%	73	59.3%	65	52.0%
	3 class	6	3.6%	18	11.0%	23	18.7%	28	22.4%
	4 class	2	1.2%	5	3.0%	5	4.1%	4	3.2%
	After 4 class	0	0.0%	0	0.0%	0	0.0%	0	0.0%
In your personal opinion, in what grade children should learn to write?	Before school	6	3.6%	8	4.8%	8	6.5%	12	9.6%
	1 class	141	84.9%	139	84.2%	103	83.7%	100	80.0%
	2 class	18	10.8%	18	10.9%	10	8.1%	12	9.6%
	3 class	0	0.0%	0	0.0%	2	1.6%	1	0.8%
	4 class	1	0.6%	0	0.0%	0	0.0%	0	0.0%
	After 4 class	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Table 120: Teacher Interview Means Overall

Question	Kyrgyz					Russian				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
How many hours per week is your workload?	331	4.00	36.00	17.61	3.82	248	3.00	57.00	22.87	7.23
Students in the class	331	5.00	49.00	22.96	5.91	248	9.00	50.00	29.12	7.77
Number of students who are repeaters	331	0.00	13.00	0.07	0.75	248	0.00	4.00	0.08	0.36
Number of students late on a typical day	331	0.00	12.00	.83	1.16	248	0.00	6.00	1.13	1.21
Teacher perception of school safety	331	1.00	4.00	3.34	0.72	248	1.00	4.00	3.21	0.68

Table 121: Kyrgyz Teacher Interview Means by Grade

Question	Grade 2					Grade 4				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
How many hours per week is your workload?	166	12.00	36.00	17.31	3.50	165	4.00	34.00	17.91	4.10
Students in the class	166	10.00	40.00	22.83	5.91	165	5.00	49.00	23.10	6.75
Number of students who are repeaters	166	0.00	13.00	0.13	1.03	165	0.00	3.00	0.02	0.23
Number of students late on a typical day	166	0.00	12.00	1.04	1.39	165	0.00	5.00	0.61	0.831
Teacher perception of school safety	166	1.00	4.00	3.33	0.76	165	1.00	4.00	3.46	0.69

Table 122: Russian Teacher Interview Means by Grade

Question	Grade 2					Grade 4				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
How many hours per week is your workload	123	3.00	36.00	21.82	6.88	125	5.00	57.00	23.90	7.44
Students in the class	123	13.00	50.00	29.54	7.85	125	9.00	49.00	28.70	7.71
Number of students who are repeaters	123	0.00	4.00	0.09	0.42	125	0.00	2.00	0.06	0.28
Number of students late on a typical day	123	0.00	6.00	1.34	1.32	125	0.00	4.00	0.92	1.06
Teacher perception of school safety	123	1.00	4.00	3.21	0.69	125	1.00	4.00	3.21	0.66

Table 123: School Inventory Frequencies

Question	Responses	Kyrgyz N= 163		Russian N= 126	
		Count	%	Count	%
The school building was designed to be used as a school at the time of construction	No	23	14.1%	16	12.7%
	Yes	140	85.9%	110	87.3%
What source of drinking water does the school have?	The school does not have drinking water	22	13.5%	4	3.2%
	Tap water	93	57.1%	97	77.0%
	Water column	26	16.0%	12	9.5%
	Pipe	9	5.5%	4	3.2%
	Well	8	4.9%	8	6.3%
	River or other water body	4	2.5%	1	0.8%
	Tank for collecting rain water	1	0.6%	0	0.0%
What is the sanitary state of the toilets?	Very dirty	6	3.7%	15	11.9%
	Medium	69	42.3%	61	48.4%
	Clean	59	36.2%	26	20.6%
	N/A	29	17.8%	24	19.0%
Approximately how many books are there in the library for the primary grades?	No such books	1	0.6%	0	0.0%
	1 to 25	10	6.1%	1	0.8%
	25 to 50	6	3.9%	4	3.2%
	50 to 100	25	15.3%	10	7.9%
	Over 100	75	46.0%	64	50.8%
	Missing	46	28.2%	47	37.3%

Table 124: School Inventory Means

Question	Kyrgyz					Russian				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Number of functioning latrines in the school	163	0.00	26.00	5.50	5.17	126	0.00	50.00	8.10	7.08

Question	Kyrgyz					Russian				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Number of functioning latrines intended only for girls in the school	163	0.00	16.00	2.86	2.59	126	0.00	25.00	3.99	3.58
School condition index ⁴³	163	0.00	8.00	5.93	2.11	126	0.00	8.00	5.75	2.19
School resources index ⁴⁴	163	3.00	13.50	8.94	1.95	126	2.50	13.50	10.01	1.96

Table 125: Classroom Inventory Means Overall

Question	Kyrgyz					Russian				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Class enrollment	343	5.00	43.00	20.96	5.91	248	6.00	50.00	26.03	7.67
Student resources index ⁴⁵	343	0.00	3.00	2.60	0.68	248	0.00	3.00	2.50	0.72
Teacher resources index ⁴⁶	343	1.00	7.00	5.62	0.70	248	1.00	7.00	5.17	1.10

⁴³ The school condition index reflects the need for physical repairs to windows, the roof, ceilings, classroom and external walls, the sporting grounds, the heating system, and furniture. The maximum possible score for this index is 8, and higher scores indicate more positive infrastructure conditions and fewer repair needs.

⁴⁴ The school resources index reflects whether a school had clean grounds, a source of electricity, a source of drinking water, toilets that can be used year-round, wash basins, access to a working phone, a library, a stadium, a gymnasium, a medical room, a cafeteria, an assembly hall, an announcements board, and a security guard. The maximum possible score for this index is 14, and higher scores indicate the availability of more resources at the school.

⁴⁵ The student resources index reflects whether at least 90 percent of students present in the classroom on the day of the visit possessed each of the following: a reading textbook, a reading copybook, and a pen or pencil. The maximum possible score for this index is 3, and higher scores indicate that students are better prepared in terms of resources for reading lessons at the school.

⁴⁶ The teacher resources index reflects whether the teacher in the classroom had access to a blackboard or whiteboard, chalk or markers, an interactive board, pens or pencils, a notebook to write in, methodological guidance on teaching reading, and a lesson plan or lesson summary. The maximum possible score for this index is 7, and higher scores indicate that teachers are better resourced for delivering reading instruction to students at the school.

Question	Kyrgyz					Russian				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Classroom conditions and learning resources index ⁴⁷	343	2.00	7.00	5.52	1.12	248	1.00	7.00	5.28	1.30

⁴⁷ The classroom conditions and learning resources index reflects whether the classroom visited had at least 10 books or magazines apart from study books, didactic materials or visual aids on the walls, students' work displayed, desks and chairs for all students, desks and chairs that are age appropriate in terms of size and free from repair, and sufficient lighting for the teacher and students to clearly see the board and visual aids. The maximum possible score for this index is 7, and higher scores indicate more positive classroom conditions and learning resources at the school.

Table 126: Kyrgyz Classroom Inventory Means by Grade

Question	Grade 2					Grade 4				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Class enrollment	163	8.00	34.00	20.78	5.53	165	5.00	38.00	20.87	65.85
Student resources index	163	0.00	3.00	2.57	0.66	165	0.00	3.00	2.64	0.65
Teacher resources index	163	4.00	7.00	5.61	0.69	165	2.00	7.00	5.63	0.74
Classroom conditions and learning resources index	163	2.00	7.00	5.48	1.15	165	2.00	7.00	5.53	1.11

Table 127: Russian Classroom Inventory Means by Grade

Question	Grade 2					Grade 4				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Class enrollment	126	11.00	50.00	26.44	8.14	122	6.00	46.00	25.61	7.18
Student resources index	126	0.00	3.00	2.44	0.76	122	1.00	3.00	2.57	0.67
Teacher resources index	126	1.00	7.00	5.10	1.09	122	2.00	7.00	5.25	1.10
Classroom conditions and learning resources index	126	1.00	7.00	5.36	1.31	122	1.00	7.00	5.20	1.29

Table 128: Correlations between SSME Items with Variance and School-Level Oral Reading Fluency Results by Grade and Language

Instrument	Item	Kyrgyz Grade 2	Kyrgyz Grade 4	Russian Grade 2	Russian Grade 4
Teacher Questionnaire	Classroom teacher identifies Russian as her native language	---	---	0.34*	0.38**
	Teacher works more than one shift per day	0.11	0.01	0.11	0.01
	Classroom enrollment	0.04	0.10	0.21*	0.34**
	Percentage of repeat students in the class	-0.07	-0.03	-0.04	0.00
	Percentage of absent student in the class	-0.11	-0.15	-0.22*	-0.14
	Head teacher observes lessons at least monthly	-0.03	0.05	-0.07	-0.01
	Someone from MOES visits the school at least quarterly	0.19*	0.00	-0.19*	-0.07
	Teacher buys teaching materials with own money	0.00	0.02	0.00	0.02
	Teacher evaluates students through home assignments	0.02	0.08	0.02	0.04
	Teacher expects students to read fluently by Grade I	0.21**	0.03	0.02	0.11
	Teacher expects children to write by Grade I	-0.02	0.02	0.01	0.05
	Teacher's perception of school's safety (index)	0.11	0.25**	-0.14	-0.11
	Head Teacher Questionnaire	Head teacher has at least 6 years of experience in role	0.09	0.06	0.17
Head teacher has received management training		-0.08	-0.06	0.16	0.09
School had reading textbooks for all children at start of year		0.10	0.11	0.20**	0.23*
Librarian has specialized training in library science		0.11	0.08	0.25**	0.26**
Librarian delivers reading activities at least monthly		0.24**	0.14	0.08	-0.12
Head teacher expects students to read fluently by Grade I		0.15	0.05	0.04	0.09
Head teacher expects students to write by Grade I		0.26**	0.18*	0.06	0.10
Head teacher's perception of school's safety (index)		0.08	0.18*	-0.03	-0.06
School Inventory	School condition index	-0.03	0.00	0.14	0.16
	School resources index	0.18*	0.04	0.28**	0.32**
	Latrines at the school were clean	0.07	-0.08	0.27**	0.29**
	Library has at least 100 books	0.15	-0.01	0.09	0.14
	Pupil-teacher ratio	-0.13	0.03	0.27**	0.32**

Instrument	Item	Kyrgyz Grade 2	Kyrgyz Grade 4	Russian Grade 2	Russian Grade 4
Classroom Inventory	Student resources index	0.02	0.01	0.28**	0.28**
	Teacher resources index	-0.08	0.04	0.26**	0.20*
	Classroom conditions and learning resources index	0.14	0.01	0.17	0.28**
	Classroom has 10 or more books and magazines	0.19*	-0.02	0.37*	0.23*

Legend of statistical significance: one asterisk (*) indicates $p < 0.05$; two asterisks (**) indicates $p < 0.01$.

Table 129: School Background Factors Associated with Reading Outcomes by Grade and Language

Dependent Variable: School-Level Oral Reading Fluency	Kyrgyz		Russian	
	Grade 2	Grade 4	Grade 2	Grade 4
Independent Variables:	β value (t-statistic)	β value (t-statistic)	β value (t-statistic)	β value (t-statistic)
Location (rural)	-0.48 (-0.22)***	-5.27 (-1.84)	-1.38 (-0.61)	-2.11 (-0.63)
Classroom teacher identifies Russian as her native language	---	---	3.39 (1.50)	9.55 (2.91)**
Classroom enrollment	---	---	-0.05 (-0.26)	0.32 (1.27)
Percentage of absent student in the class	---	---	-0.39 (-1.22)	---
Someone from MOES visits the school at least quarterly	2.39 (1.33)	---	-3.95 (-1.72)	---
Teacher expects students to read fluently by Grade 1	3.46 (2.13)*	---	---	---
Teacher's perception of school safety (index)	---	4.84 (2.68)**	---	---
School had reading textbooks for all children at start of year	---	---	1.18 (0.54)	1.86 (0.59)
Librarian has specialized training in library science	---	---	3.27 (1.45)	8.72 (2.64)*
Librarian delivers reading activities at least monthly	3.41 (1.99)*	---	---	---
Head teacher expects students to write by Grade 1	6.75 (2.91)**	9.75 (2.86)**	---	---
Head teacher's perception of school safety (index)	---	0.12 (0.08)	---	---
School resources index	---	---	0.25 (0.41)	1.71 (1.80)
Latrines at the school were clean	---	---	3.82 (1.41)	2.71 (1.80)
Pupil-teacher ratio	---	---	0.14 (1.46)	0.22 (1.55)
Student resources index	---	---	2.06 (1.49)	8.02 (3.02)**
Teacher resources index	---	---	1.40 (1.10)	-1.35 (-0.85)

Dependent Variable: School-Level Oral Reading Fluency	Kyrgyz		Russian	
	Grade 2	Grade 4	Grade 2	Grade 4
Independent Variables:	β value (t-statistic)	β value (t-statistic)	β value (t-statistic)	β value (t-statistic)
Classroom conditions and learning resources index	0.82 (1.88)	---	---	2.36 (1.46)
Classroom has 10 or more books and magazines	2.08 (1.31)	---	---	0.30 (0.07)
Constant	23.99 (4.59)***	52.72 (8.06)***	28.13 (2.91)***	0.34 (0.02)
R2	0.21	0.11	0.34	0.46
Sample size	147	154	101	104

Legend of statistical significance: one asterisk (*) indicates $p < 0.05$; two asterisks (**) indicates $p < 0.01$; three asterisks (***) indicates $p < 0.001$.

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