



USAID | **KYRGYZ REPUBLIC**
FROM THE AMERICAN PEOPLE

USAID Quality Reading Project (QRP): Kyrgyzstan

**Early Grade Reading Assessment (EGRA) Baseline Data
Analytic Report with Addendum**



October 2014

Updated January 2016

**A partnership with
American Institutes for Research and Save the Children International**

Contract No.: AID-176-C-13-00001-00

USAID Quality Reading Project (QRP): Kyrgyzstan

Early Grade Reading Assessment (EGRA) Baseline Data Analytic Report with Addendum

Submitted by:
American Institutes for Research

31 October 2014

Updated January 2016

This baseline study of early grade reading assessment is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents are the sole responsibility of the American Institutes for Research and Save the Children International and do not necessarily reflect the views of USAID or the United States Government.

CONTENTS

Acronyms	vi
Definitions	vii
Foreword	viii
Acknowledgments	ix
I. Executive Summary	1
Instrument	1
II. Background and Context	10
Introduction.....	10
Quality reading project	10
Kyrgyzstan context	10
Objectives of EGRA	11
III. Description of approach	12
Standards-based approach.....	12
National reading standards.....	13
IV. Procedure	14
Research design	14
Instrument development	14
Sampling	17
EGRA Administration	18
Data Cleaning and Scanning.....	19
Reliability Measures of Internal Consistency.....	19
Analytic Strategy	19
Setting Reading Performance Benchmarks	20
V. Findings	24
National Reading Fluency Benchmarks	24
National Comprehension Benchmarks	27
National Phonological and Dictation Benchmarks.....	29
National Reading Fluency and Comprehension Benchmarks	31
National Literacy Benchmarks	33
Comprehension Performance-Level Categories	35
Phonological and Dictation Performance Level Categories	36
Subtasks Comparison.....	37
VI. Recommendations	56
VII. References	58

LIST OF TABLES

TABLE 1: PERFORMANCE LEVEL BENCHMARKS BY GRADE AND LANGUAGE SKILL	3
TABLE 2: CROSS-SECTIONAL AND LONGITUDINAL DESIGN	14
TABLE 3: DISTRIBUTION OF SCHOOLS BY REGION	18
TABLE 4: RELIABILITY OF INTERNAL CONSISTENCY FOR COMPREHENSION AND PHONOLOGICAL AWARENESS AND DICTATION	19
TABLE 5: GENERAL DEFINITIONS OF PERFORMANCE LEVEL CATEGORIES	21
TABLE 6: AN EXAMPLE OF A DETAILED DEFINITION OF A COMPETENCY WITHIN A COMPONENT	22
TABLE 7: DISTRIBUTION OF EGRA SAMPLE OF STUDENTS	24
TABLE 8: PERCENTAGE OF STUDENTS MEETING KYRGYZ NATIONAL READING FLUENCY BENCHMARKS BY GENDER	25
TABLE 9: PERCENTAGE OF STUDENTS MEETING RUSSIAN NATIONAL READING FLUENCY BENCHMARKS BY GENDER	25
TABLE 10: PERCENTAGE OF STUDENTS MEETING KYRGYZ NATIONAL READING FLUENCY BENCHMARKS BY SCHOOL TYPE	26
TABLE 11: PERCENTAGE OF STUDENTS MEETING RUSSIAN NATIONAL READING FLUENCY BENCHMARKS BY SCHOOL TYPE	27
TABLE 12: PERCENTAGE OF SCORES -- NATIONAL COMPREHENSION BENCHMARKS	28
TABLE 13: PERCENTAGE OF STUDENTS MEETING NATIONAL COMPREHENSION BENCHMARKS BY GENDER	28
TABLE 14: PERCENTAGE OF STUDENTS MEETING NATIONAL COMPREHENSION BENCHMARKS BY SCHOOL TYPE	29
TABLE 15: PERCENTAGE OF SCORES REQUIRED FOR MEETING NATIONAL PHONOLOGICAL AND DICTATION BENCHMARKS	29
TABLE 16: PERCENTAGE OF STUDENTS MEETING NATIONAL PHONOLOGICAL AND DICTATION BENCHMARKS BY GENDER	30
TABLE 17: PERCENTAGE OF STUDENTS MET NATIONAL PHONOLOGICAL AND DICTATION BENCHMARK BY SCHOOL TYPE	30
TABLE 18: NATIONAL FLUENCY AND COMPREHENSION BENCHMARKS	31
TABLE 19: PERCENTAGE OF STUDENTS MEETING NATIONAL READING FLUENCY AND COMPREHENSION BENCHMARKS BY GENDER	32
TABLE 20: PERCENTAGE OF STUDENTS MEETING NATIONAL READING FLUENCY AND COMPREHENSION BENCHMARKS BY SCHOOL TYPE	33
TABLE 21: NATIONAL LITERACY BENCHMARKS	33
TABLE 22: PERCENTAGE OF STUDENTS MEETING NATIONAL LITERACY BENCHMARKS BY GENDER	34
TABLE 23: PERCENTAGE OF STUDENTS MEETING NATIONAL LITERACY BENCHMARKS BY SCHOOL TYPE	35
TABLE 24: BENCHMARKS FOR COMPREHENSION PERFORMANCE LEVEL CATEGORIES	35
TABLE 25: CUT SCORES FOR PHONOLOGICAL AND DICTATION PERFORMANCE LEVEL CATEGORIES	36
TABLE 26: LETTER NAME KNOWLEDGE FLUENCY BY GENDER	38
TABLE 27: LETTER NAME KNOWLEDGE FLUENCY BY SCHOOL TYPE	39
TABLE 28: LETTER SOUND KNOWLEDGE BY GENDER	40
TABLE 29: LETTER SOUND KNOWLEDGE BY SCHOOL TYPE	41
TABLE 30: INITIAL LETTER SOUND BY GENDER	41
TABLE 31: INITIAL LETTER SOUND BY SCHOOL TYPE	42

TABLE 32: FAMILIAR WORD IDENTIFICATION BY GENDER	43
TABLE 33: FAMILIAR WORD IDENTIFICATION BY SCHOOL TYPE.....	44
TABLE 34: UNFAMILIAR WORD IDENTIFICATION BY GENDER.....	45
TABLE 35: UNFAMILIAR WORD IDENTIFICATION BY SCHOOL TYPE	46
TABLE 36: ORAL VOCABULARY BY GENDER	47
TABLE 37: ORAL VOCABULARY BY SCHOOL TYPE.....	48
TABLE 38: READING PASSAGE BY GENDER	48
TABLE 39: READING PASSAGE BY SCHOOL TYPE	50
TABLE 40: READING COMPREHENSION BY GENDER.....	51
TABLE 41: READING COMPREHENSION BY SCHOOL TYPE	51
TABLE 42: LISTENING COMPREHENSION BY GENDER.....	53
TABLE 43: LISTENING COMPREHENSION BY SCHOOL TYPE	53
TABLE 44: DICTATION BY GENDER	54
TABLE 45: DICTATION BY SCHOOL TYPE	55

LIST OF FIGURES

FIGURE 1: ELEMENTS OF AN ALIGNED STANDARDS-BASED EDUCATION SYSTEM	12
FIGURE 2: THE VISUAL REPRESENTATION OF THE VERTICALLY EQUATED ASSESSMENT DESIGN	15
FIGURE 3: THE VISUAL REPRESENTATION OF STANDARD SETTING PROCESS	21
FIGURE 4: PERCENTAGE DISTRIBUTION OF STUDENTS BY COMPREHENSION PERFORMANCE LEVEL CATEGORIES.....	36
FIGURE 5: PERCENT DISTRIBUTION OF STUDENTS BY PHONOLOGICAL AND DICTATION PERFORMANCE LEVEL CATEGORIES.....	37

ACRONYMS

AIR	American Institutes for Research
CPD	Continuous Professional Development
EGRA	Early Grade Reading Assessment
IST	In-service Training
KAE	Kyrgyz Academy of Education
MOES	Ministry of Education and Science
NTC	National Testing Center
OECD	Organization for Economic Cooperation and Development
PISA	Programme for International Student Assessment
QRP	Quality Reading Project
TTI	Teacher Training Institutes
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development

DEFINITIONS

Alphabetic knowledge	Familiarity with the alphabet and with the principle that written spellings systematically represent sounds that can be blended into meaningful words.
Reading Standards	Knowledge, skills, and abilities that students are expected learn at their reading grade level.
Fluency	The bridge between decoding and comprehension. Fluency in word recognition so that the reader is no longer aware of or needs to concentrate on the mental effort of translating letters to sounds and forming sounds into words. At that point, the reader is decoding quickly enough to be able to focus on comprehension.
Fluency analysis	A measure of overall reading competence reflecting the ability to read accurately and quickly (see Fluency).
Grapheme	The most basic unit in an alphabetic, written system. Graphemes combine to create phonemes (see Phoneme). A grapheme might be composed of one or more than one letter; or of a letter with a diacritic mark (such as <i>é</i> instead of <i>e</i> in French).
Morpheme	Smallest linguistic unit with meaning. Different from a word, as words can be made up of several morphemes (unbreakable can be divided into <i>un-</i> , <i>break</i> , and <i>-able</i>). There are bound and unbound morphemes. A word is an unbound morpheme, meaning that it can stand alone. A bound morpheme cannot stand alone (e.g., prefixes such as <i>un-</i>).
Metaphonology	See Phonological awareness.
Orthographic	The art of writing words with the proper letters according to usage; spelling.
Performance Standards	Knowledge, skills, and abilities that students are expected to demonstrate at their grade level reading.
Phoneme	The smallest linguistically distinctive unit of sound allowing for differentiation of two words within a specific language (e.g., <i>top</i> and <i>mop</i> differ by only one phoneme, but the meaning changes).
Phonological awareness	A general appreciation of the sound structure of language, as demonstrated by the awareness of sounds at three levels of structure: syllables, onsets and rimes, and phonemes.
Phonics	Instructional practices that emphasize how spellings are related to speech sounds in systematic ways.

FOREWORD

Early grade reading is essential to educational success. The United States Agency for International Development (USAID) is strategically focused on improving early grade reading, especially in Central Asia. Studies like this Early Grade Reading Assessment (EGRA) are an important part of that focus; they give Ministries of Education, international donors, and other education stakeholders the information they need to make informed decisions and good programmatic choices in order to improve student skills.

This 2014 EGRA baseline report is the result of the strong partnership between USAID/Kyrgyz Republic and the Ministry of Education and Science (MOES) of the Kyrgyz Republic. It provides reliable data on the strengths and weaknesses of early grade reading efforts throughout the country. As a student-based assessment, it is an especially practical tool for policy makers, school leaders, professors, parents, and teachers. USAID is very pleased to present this EGRA, and we hope it will serve as a valuable tool for all partners who support better reading skills in the Kyrgyz Republic.

Michael Greene

USAID Kyrgyz Republic Mission Director

ACKNOWLEDGMENTS

The early grade reading assessment (EGRA) has been successfully completed as a result of contributions made by many organizations and individuals. The Ministry of Education and Science (MOES) of the Kyrgyz Republic, National Testing Center (NTC), Pedagogy University, and Kyrgyz Academy of Education (KAE) provided vital guidance and oversight for the whole assessment process. In this regard, special gratitude goes to H.E., the Deputy Minister of Education, Ms. Kendirbaeva D.Sh. for her guidance and support. Highly acknowledged also is Mr. Bakirov Artur, Director of NTC, for his constant involvement and follow-up.

This EGRA would have been impossible without the generosity of the American people through the United States Agency for International Development / Quality Reading Project (USAID/QRP). USAID not only provided the funding required but also gave its critical input in the implementation process through Mrs. Mavjuda Nabieva, Project Management Specialist at USAID/Tajikistan.

The EGRA was implemented with the technical and logistical assistance of the American Institutes for Research (AIR) and Save the Children International through the USAID/QRP. AIR planned and executed the process with the support of staff members in both the Washington, DC-based headquarters and the USAID/QRP office in Kyrgyzstan. Many thanks goes to Mr. Jerome Mindes, Project Manager based in Washington, DC, for his overall role in supporting the activities, to Dr. Abdullah Ferdous for his technical lead and expertise in designing, conducting, and analyzing the assessment, to Ms. Barbara Greenwood, Chief of Party, and Ms. Kathryn Fleming, Deputy Chief of Party, for technical and administrative leadership, and to all USAID/QRP staff for their support.

I. EXECUTIVE SUMMARY

The objectives of early grade reading assessment (EGRA) in the Kyrgyz and Russian languages are to set baselines for United States Agency for International Development / Quality Reading Project (USAID/QRP) on student reading fluency and comprehension skills, and to determine the relationship of these skills to selected factors in their school and home environment. We utilized an assessment approach that is based on widely-accepted research and best-known practices for standard-based education. This approach supports developing, implementing, and sustaining a system that can be used to (a) determine what students at Grades 1, 2, and 4 know and are able to do with key competencies of the Kyrgyz and Russian reading standards, and (b) inform educational policy, program planning, and decision making. The approach has three core elements that are necessary for improved student reading performance:

1. Countries must have alignment between academic content standards (i.e., what students are expected to learn at their grade level), performance standards (i.e., how students are expected to perform on the content standards), classroom instruction, and student assessments;
2. The pedagogical factors must be accompanied by support structures such as political leadership, management systems, and professional training programs; and
3. Schools, districts, and regions must be held accountable through tracking student achievement over time.

INSTRUMENT

To achieve more accurate measures of student reading outcomes, the USAID/QRP utilizes vertically-equated common-matrix sampled design for Grades 1, 2, and 4. It means that there is a single form for each grade and language in the baseline, containing a set of core matrix items unique to grade level and a set of common items that appear exactly at the same locations in all three grades' instruments. The common set of items brings Grades 1, 2, and 4's reading outcome measures onto the same reporting scale and also allows tracking students' reading progress from grade to grade. The instrument has nine sections. Four of the nine sections are timed; students are given a maximum of 2 minutes to finish each timed section. However, their *reading fluency is recorded at the end of both 1 and 2 minutes*. Within 2 minutes, it is expected that students with both lower and higher ability levels would have had enough to demonstrate adequately what they know and are able to do. The student instrument, administered orally by a trained administrator in one-on-one sessions with individual students, requires about 25 to 30 minutes each. The tenth section is added to include demographic information of the students. Each section is outlined below.

SECTION 1: LETTER NAME KNOWLEDGE (TIMED)

The purpose of this section is to assess whether students in Grades 1 and 2 know and are able to read aloud both capital and small letters in Kyrgyz and Russian languages and how fast they can read. A full set of letters are listed in random order. Randomization is used to prevent students from reciting a memorized alphabet.

SECTION 2: LETTER SOUND KNOWLEDGE (NOT TIMED)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 know and are able to sound the letters. A list of 10 most frequently used letters identified in primary grade textbooks (Grades 1 to 4) are listed in a row in a clear, large, and familiar font. This is not a timed section. Every student is asked to make the sound of the letters that are typically taught through phonic-based approaches.

SECTION 3: INITIAL SOUND IDENTIFICATION (NOT TIMED)

The purpose of this section is to examine whether students in Grades 1 and 2 can identify the initial sound of common words used at their grade level. This is a listening exercise. The administrator reads aloud 10 simple words appropriate at the grade level, one word at a time. The student is asked to make the initial sound of each of the words.

SECTION 4: FAMILIAR WORD IDENTIFICATION (TIMED)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to read aloud familiar words at their grade levels. A list of 25 familiar words for Grade 1 and 40 words for Grades 2 and 4 are selected from primary grade textbooks.

SECTION 5: UNFAMILIAR WORD IDENTIFICATION (TIMED)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to decode unfamiliar words appropriate at their grade levels. A list of 25 unfamiliar words for Grade 1 and 40 words for Grades 2 and 4 are selected.

SECTION 6: ORAL VOCABULARY (NOT TIMED)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to understand meaning of familiar words at their grade levels. This is a listening exercise. The administrator reads aloud 10 words, one word at a time. Students are presented with a set of four pictures for each word read and asked to identify the picture that best matches the word.

SECTION 7A: PASSAGE READING (TIMED)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to read aloud a passage with comprehension. This section includes one short paragraph, which is around 25 words for Grade 1, around 40 words for Grade 2, and 80 words for Grade 4.

SECTION 7B: PASSAGE READING COMPREHENSION (NOT TIMED)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to comprehend the passage they just read. After the student reads the passage aloud, the administrator asks the student three to five simple questions about the passage.

SECTION 8: LISTENING COMPREHENSION (NOT TIMED)

The purpose of this section is also to examine whether students in Grades 1, 2, and 4 are able to comprehend the passage they just heard. This section includes one short paragraph, which is around 25 words for Grade 1, around 40 words for Grade 2, and around 80 words for Grade 4. This is a listening exercise. The test administrator reads aloud a passage to the student only once, slowly (about one word per second). After the administrator reads the passage, he or she asks three to five oral comprehension questions about the passage.

SECTION 9: DICTATION (NOT TIMED)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to write a complete sentence correctly, using appropriate formation, size, signs, symbols, and spacing. Student will write the dictation sentence on a lined page. The dictation sentence for Grades 1, 2, and 4 will consist of four to five words, five to six words, and eight to 10 words, respectively.

SAMPLE

The baseline administration of the EGRA was set to be administered in 130 schools randomly selected from the eight regions, with 65 pilot schools receiving USAID/QRP interventions and 65 control schools not receiving any USAID/QRP interventions. The 65 pilot schools (16 large, 29 medium, and 20 small; 51 rural, 4 semiurban, and 10 urban) were selected randomly from 1,300 USAID/QRP program schools, and the 65 control schools (13 large, 35 medium, and 17 small; 55 rural, 4 semiurban, and 6 urban) were selected randomly from the remaining non-

USAID/QRP program schools. A systematic sampling procedure was utilized to select 20 students from each school’s Grades 1, 2, and 4 to be tested, for a total of 5,840 students. Out of which, 1,920 students were tested in Russian and 3,920 were tested in Kyrgyz.

DATA ANALYSIS

The EGRA results are primarily reported through students’ performance in reading fluency, phonological awareness, comprehension, and dictation. For *reading fluency*, we calculated the student’s reading fluency at the end of 1 and 2 minutes. If a student attempted to read all words within a given reading section in less than a minute or 2, we estimated the corrected reading fluency at the end of minute 1 and 2, as if the student had used the entire 1 minute or 2 minutes. We also calculated the student reading fluency rate for slow readers, i.e., students who took more than 1 minute but less than or equal to 2 minutes to finish each timed section. For *reading comprehension*, we calculated the composite raw score for each student, which included their scores in oral vocabulary knowledge, reading comprehension, and listening comprehension sections. The reliability of internal consistency (Cronbach Alpha) for reading comprehension in Kyrgyz and Russian were 0.58–0.75 and 0.73–0.84, respectively. For *phonological awareness and writing*, we calculated the composite score of letter sound, initial letter sound, and dictation sections. The reliability of internal consistency for that measure in Kyrgyz and Russian are 0.75–0.81 and 0.66–0.85, respectively.

SETTING NATIONAL READING BENCHMARKS

The USAID/QRP in collaboration with the Ministry of Education and Science (MOES) and other stakeholders set national benchmarks for reading fluency, comprehension, phonological awareness, and dictation. A four-step, standard-setting procedure was implemented for defining and establishing the reading performance benchmarks:

- (1) Developing general descriptions of performance-level categories (e.g., initial, standard, proficient, advanced);
- (2) Developing detailed definitions of performance-level categories to describe the expectations of student performance in each performance-level category, taking into account competency level and grade-level standards;
- (3) Establishing cut scores for performance-level categories; and
- (4) Recommending national performance benchmarks.

According to MOES’s approved benchmarks, students classified as “standard” and/or above are considered to be meeting national benchmark. The following table presents approved benchmarks for each grade and language skill.

TABLE 1: PERFORMANCE-LEVEL BENCHMARKS BY GRADE AND LANGUAGE SKILL

Language Skill	Grade	Initial	Standard	Proficient	Advanced
Reading Fluency: Kyrgyz and Russian (words per minute)	1	1–24 words	25 words	26–36 words	37+ words
	2	1–39 words	40 words	41–51 words	52+ words
	4	1–79 words	80 words	81–91 words	92+ words
Reading Comprehension: Kyrgyz (marks)	1	0–74%	75–93%	94–99%	100%
	2	0–66%	67–88%	89–93%	94–100%
	4	0–69%	70–89%	90–94%	95–100%
Reading Comprehension: Russian (marks)	1	0–70%	71–87%	88–93%	94–100%
	2	0–58%	59–87%	88–93%	94–100%
	4	0–66%	67–88%	89–99%	100%

Language Skill	Grade	Initial	Standard	Proficient	Advanced
Phonological Awareness and Dictation: Kyrgyz (marks)	1	0–75%	76–93%	94–96%	97–100%
	2	0–73%	74–88%	89–99%	100%
	4	0–65%	66–87%	88–96%	97–100%
Phonological Awareness and Dictation: Russian (marks)	1	0–74%	75–85%	86–91%	92–100%
	2	0–62%	63–81%	82–86%	87–100%
	4	0–64%	65–78%	79–87%	88–100%

For national *reading fluency* benchmarks in Kyrgyz and Russian, students in Grades 1, 2, and 4 must be able to read at least 25, 40, and 80 grade-appropriate words per minute, respectively. For national *reading comprehension*, the benchmarks are defined by the percentage of comprehension questions (comprising reading comprehension, listening comprehension and oral vocabulary knowledge) the student at varying grade levels must answer correctly. To meet national reading comprehension benchmarks in Kyrgyz, students must obtain at least 75 percent marks in Grade 1, 67 percent in Grade 2, and 70 percent in Grade 4. To meet national reading comprehension benchmarks in Russian, students must get at least 71 percent marks in Grade 1, 59 percent in Grade 2, and 67 percent in Grade 4. For *phonological awareness and dictation*, the benchmarks are defined by the percentage of letter sound, initial letter sound, and dictation questions that student at varying grade levels must answer correctly. In Kyrgyz, students must obtain at least 76 percent marks percent in Grade 1, 74 percent in Grade 2, and 66 percent in Grade 4. In Russian, students must get 75 percent in Grade 1, 63 percent in Grade 2, and 65 percent in Grade 4. A conjunctive model in which all students was measured against all national performance benchmarks was used to find out what percentage of students were meeting benchmarks for certain combinations of skills, such as the combination of reading fluency and comprehension.

In addition to setting national benchmarks, the MOES also set multiple benchmarks relative to the national standards on a four-point performance level categorical scale. The table above presents the benchmarks. For example, if students in Grade 1 obtain 0 percent to 74 percent marks in Kyrgyz reading comprehension, then they would be classified as “initial;” 75 percent to 93 percent marks classifies them into “standard;” 94 percent to 99 percent marks classifies them into “proficient;” 100 percent marks classifies them into “advanced.”

RESULTS

1. **NATIONAL READING FLUENCY BENCHMARKS:** Just over 10 percent of students in Grades 1 and 2 and only 1 percent in Grade 4 met national reading fluency benchmarks in Kyrgyz and Russian. The percentage was low due to the fact that students did not meet the benchmark for unfamiliar words. Students were able to read faster only familiar words and reading passages (containing familiar words) and that could be due to rote memorization of the words. But they struggle noticeably in reading unfamiliar words. What it suggests is that students have difficulty with decoding. However, it was quite distinct that female students performed higher than their male counterparts, consistently in both Kyrgyz and Russian, except for Grade 1 Russian (including familiar and unfamiliar words). When it was compared by school type (rural, semiurban, and urban), students in semiurban schools tended to meet Kyrgyz national reading fluency benchmarks more than students in rural and urban schools. On the other hand, students of Grades 1 and 4 in semiurban schools and students of Grade 2 in urban schools outperformed their counterparts.

2. **NATIONAL READING COMPREHENSION BENCHMARKS:** Although a higher percentage of students met the national reading comprehension benchmark, strong performance in oral vocabulary knowledge compensated for relatively weak performance in reading and listening comprehension. In Kyrgyz, 80 percent in Grade 1, 86 percent in Grade 2, and 86 percent in Grade 4 met national reading comprehension benchmarks. Whereas in Russian, 64 percent in Grade 1, 82 percent in Grade 2, and 90 percent in Grade 4 met the benchmarks. Female students performed better than male students across all grades and languages, except for Grade 1 Kyrgyz. When compared by school type, students of Grades 2 and 4 Kyrgyz and Grade 1 Russian in semiurban schools performed relatively higher than their counterparts. Students in rural schools at Grade 1 Kyrgyz and urban schools at Grades 2 and 4 Russian outperformed their peers.
3. **NATIONAL PHONOLOGICAL AWARENESS AND DICTATION BENCHMARKS:** In general, students performed well in phonological awareness and dictation. Over three-fourth of students in both Kyrgyz (Grades 1 and 4) and Russian (all three grades) met national phonological and dictation benchmarks. However, strong performance in letter sound and initial letter sound compensated highly for relatively weak performance in dictation. In Kyrgyz, more than three-fourth of Grade 1 (71 percent male and 80 percent female), one-half of Grade 2 (49 percent male and 65 percent female), and nine-tenth of Grade 4 (89 percent male and 96 percent) met national phonological and dictation benchmarks. In Russian, just more than three-fourth Grade 1 (72 percent male and 79 percent female), eight-ninth Grade 2 (85 percent male and 92 percent female), and more than nine-tenth Grade 4 (94 percent male and 99 percent female) met the benchmarks. Higher percentage of semiurban students met the national benchmarks for all grades and languages, except for Grade 1 Kyrgyz and Russian.
4. **NATIONAL READING FLUENCY AND COMPREHENSION BENCHMARKS:** A student is said to be meeting national fluency and comprehension benchmark if he or she meets both fluency and comprehension benchmark. In Kyrgyz, only 11 percent of students in Grade 1, 11 percent in Grade 2, and 1 percent in Grade 4 met both national benchmarks. In Russian, 13 percent in Grade 1, 10 percent in Grade 2, and 2 percent in Grade 4 met the benchmarks. Again, female students outperformed male students consistently across grade levels. There were no meaningful differences among school types, except for Grade 2 Kyrgyz, Grade 1 and 2 Russian; semiurban schools for Grade 2 Kyrgyz and Grade 1 Russian, and urban schools for Grade 2 Russian performed higher than their counterparts.
5. **NATIONAL LITERACY BENCHMARKS:** A student is said to be meeting national literacy benchmark if he or she meets the fluency, comprehension, phonological awareness, and dictation benchmarks. Only one-tenth (10 percent) of Grades 1 and 2, and one-hundredth (one percent) of Grade 4 met national literacy benchmarks, though a large number of students met comprehension, phonological, and dictation benchmarks. This is due to their poor performance in reading fluency, particularly in unfamiliar words. In Kyrgyz, only 11 percent of students in Grade 1, 11 percent in Grade 2, and 1 percent in Grade 4 met both national benchmarks. In Russian, 13 percent in Grade 1, 10 percent in Grade 2, and 2 percent in Grade 4 met the benchmarks. Again, female students outperformed male students consistently across grade levels. There were no meaningful differences among school types, except for Grade 2 Kyrgyz, Grade 1 and 2 Russian; semiurban schools for Grade 2 Kyrgyz and Grade 1 Russian, and urban schools for Grade 2 Russian, which performed higher than their counterparts.

6. **READING COMPREHENSION PERFORMANCE LEVEL BENCHMARKS:** When student performance in reading comprehension was separated into performance level categories, it was revealed that in Kyrgyz, 20 percent of students in Grade 1 were classified into initial, 53 percent into standard, 16 percent into proficient, and 11 percent into advanced categories. In Grade 2, 14 percent of students were classified into initial, 50 percent into standard, 13 percent into proficient, and 24 percent into advanced categories. In Grade 4, 14 percent students were classified into initial, 41 percent into standard, 15 percent into proficient, and 30 percent into advanced categories. On the other hand, in Russian, 36 percent of the students in Grade 1 were classified into initial, 44 percent into standard, 9 percent into proficient, and 11 percent into advanced categories. In Grade 2, 18 percent of students were classified into initial, 46 percent into standard, 10 percent into proficient, and 26 percent into advanced categories. In Grade 4, 6 percent of students were classified into initial, 44 percent into standard, 33 percent into proficient, and 17 percent into advanced categories.
7. **PHONOLOGICAL AWARENESS AND DICTATION PERFORMANCE LEVEL BENCHMARKS:** In Kyrgyz, majority of the students were classified into “standard”, and “advanced” categories. It was due to their strong performance in phonological awareness. In Grade 1, 25 percent of students were classified into initial, 39 percent into standard, 10 percent into proficient, and 26 percent into advanced. In Grade 2, 43 percent of students were classified into initial, 39 percent into standard, 16 percent into proficient, and 1 percent into advanced. In Grade 4, 8 percent of students were classified into initial, 35 percent into standard, 33 percent into proficient, and 24 percent into advanced categories. On the other hand, in Grade 1 Russian, 25 percent were classified into initial, 19 percent into standard, 22 percent into proficient, and 34 percent into advanced. In Grade 2, 12 percent of students were classified into initial, 28 percent into standard, 12 percent into proficient, and 48 percent into advanced. In Grade 4, 4 percent of students were classified into initial, 14 percent into standard, 23 percent into proficient, and 60 percent into advanced.
8. **PERFORMANCE IN SUBTASKS:** Students’ performances in various subtasks of EGRA are presented in the following sections.
- **Letter naming knowledge:** The majority of the students were able to read Kyrgyz and Russian letter names. In Kyrgyz, students in Grades 1 and 2 read 58 and 61 letters per minute, respectively. About 36 percent of Grade 1 and 40 percent of Grade 2 students attempted to finish the entire section in less than a minute, and only three students got a score of zero. In Russian, students in Grades 1 and 2 read 43 and 55 letters per minute, respectively. About 35 percent of Grade 1 and 55 percent of Grade 2 students attempted the entire section in less than a minute, and no students got a score of zero. The students in Grade 2 who took more than a minute to finish the entire section read much faster in the second minute than in the first minute. Overall, female students performed better than male students in both Grades 1 and 2 Kyrgyz and Grade 2 Russian.
 - **Letter sound knowledge:** Students in Grades 1, 2, and 4 obtained closed to the perfect score, irrespective of the languages. In Kyrgyz, no students in Grades 1 and 4, and only four students in Grade 2 obtained zero score. While 87 percent of Grade 1, 72 percent of Grade 2, and 71 percent of Grade 4 obtained perfect scores in Kyrgyz. In Russian, two students in Grade 1, none in Grade 2, and one in Grade 4 obtained zero score. About 54 percent of Grade 1, 59 percent of Grade 2, and 64 percent of Grade 4 received perfect score in Russian. No meaningful difference was observed between male and female students, except for Grade 4 Kyrgyz.

- Initial letter sound knowledge:** A similar pattern was detected for initial letter sound knowledge as it was obtained for letter sound knowledge. In Kyrgyz, only two students in each of the Grades 1 and 2 obtained zero score, while 76 percent of Grade 1 and 45 percent of Grade 2 obtained perfect score. In Russian, seven students in Grade 1 and none in Grade 2 obtained zero score; 59 percent of Grade 1 and 54 percent of Grade 4 received perfect score. Statistical significant difference between male and female students was only observed for Grade 2 Russian.
- Familiar word identification:** In Kyrgyz, students in Grades 1, 2, and 4 read 30, 50, and 71 familiar words correctly in one minute, respectively. About 54 percent of Grade 1, 60 percent of Grade 2, and 84 percent of Grade 4 students attempted the entire section in less than a minute; only three students at Grade 1, eight students at Grade 2, and two students at Grade 4 got a score of zero. In Russian, students in Grades 1, 2, and 4 read 27, 48, and 64 familiar words correctly in one minute. About 55 percent of Grade 1, 62 percent of Grade 2, and 85 percent of Grade 4 students attempted the entire section in less than a minute; three students in Grade 1, two students in Grade 2, and no students in Grade 4 got a score of zero. Like other subtasks, female students outperformed male students in all grades and languages, except for Grade 1 Russian. In both Kyrgyz and Russian, students who took more than a minute but less than or equal to two minutes read at a faster pace in the second minute than in the first minute.
- Unfamiliar word identification:** Students' overall performance in unfamiliar word identification was very poor as compared to their performance in familiar word identification. In Kyrgyz, students at Grades 1, 2, and 4 read about 15, 25, and 31 unfamiliar Kyrgyz words per minute, respectively. About 23 percent of Grade 1, 21 percent of Grade 2, and 35 percent of Grade 4 Kyrgyz students attempted the entire unfamiliar word section in less than a minute; six students in Grade 1, seven students in Grade 2, and seven students in Grade 4 got a score of zero. In Russian, students in Grade 1, 2, and 4 read 17, 27, and 38 unfamiliar words in one minute, respectively. About 26 percent of Grade 1, 16 percent of Grade 2, and 47 percent of Grade 4 Russian students attempted the entire unfamiliar word section in less than a minute; eight students in Grade 1, six students in Grade 2 and no students in Grade 4 got a score of zero. In both Kyrgyz and Russian, students who took more than a minute but less than or equal to two minutes read at a faster pace in the second minute than in the first minute. When compared by gender, female students performed significantly better than male students for all grades in Kyrgyz and for Grades 2 and 4 in Russian.
- Oral vocabulary knowledge:** Students in Grades 1, 2, and 4 obtained closed to the perfect score, irrespective of the languages. In Kyrgyz, students in Grades 1, 2, and 4 obtained average scores of 9.2, 9.2, and 9.7 out of a possible score of 10, respectively. No students in Grade 1, two students in Grade 2, and two students in Grade 4 obtained a zero score; while 49 percent of Grade 1, 51 percent of Grade 2, and 77 percent of Grade 4 students received perfect score. In Russian, students in Grades 1, 2, and 4 received average scores of 9.5, 9.0, and 9.1. Three students in Grade 1, no students in Grade 2, and no students in Grade 4 received zero score; while 74 percent of Grade 1, 51 percent of Grade 2, and 46 percent of Grade 4 students obtained the perfect score. No significant difference was observed between male and female students, except for Grade 2 Kyrgyz.
- Reading passage:** In Kyrgyz, students in Grades 1, 2, and 4 read at a rate of 19, 32, and 68 words per minute, respectively. About 20 percent at Grade 1, 30 percent at Grade 2, and 29 percent at Grade 4 students attempted to finish the entire reading passage section in less than a minute; a total of six Grade 1, ten Grade 2, and two Grade 4 students obtained zero score. In Russian, students in Grades 1, 2, and 4 read 23, 39, and 69 words in one minute, respectively. A total of 42 percent at Grade 1, 34 percent at Grade 2, and

22 percent at Grade 4 students attempted to finish the entire reading passage section in less than a minute, and only two students in Grade 1, two in Grade 2, and none at Grade 4 obtained a score of zero. When compared by gender, female students performed significantly better than male students in all grades and languages, except for Grade 1 Russian. In both Kyrgyz and Russian, students who took more than a minute but less than or equal to two minutes read at a faster pace in the second minute than in the first minute.

- **Reading comprehension:** Students' overall performance in reading comprehension was moderate. In Kyrgyz, students in Grades 1, 2, and 4 obtained an average score of 1.3 out of possible score of 3, 2.3 out of 4, and 3.5 out of 5, respectively. About 30 percent of Grade 1, 16 percent Grade 2, and 3 percent Grade 4 students obtained zero score. In Russian, students in Grades 1, 2, and 4 obtained average scores of 0.8 out of possible score of 3, 1.1 out of 3, and 2.5 out of 4, respectively. A total of 54 percent Grade 1, 48 percent Grade 2, and 8 percent Grade 4 students obtained a zero score. There was statistically significant difference between male and female for Grades 2 and 4 students in Kyrgyz and for Grade 4 students in Russian.
- **Listening comprehension:** Student performed relatively better in listening comprehension questions than in the reading comprehension questions. In Kyrgyz, students in Grades 1, 2, and 4 obtained an average score of 2.7 out of the possible score of 3, 3.0 out of 4, and 3.5 out of 5, respectively. About 1 percent of Grade 1, 2 percent Grade 2, and 3 percent Grade 4 students obtained zero score. In Russian, students in Grades 1, 2, and 4 obtained an average scores of 2.0 out of possible score of 4, 2.6 out of 4, and 3.5 out of 4, respectively. A total of 15 percent in Grade 1, 10 percent in Grade 2, and 1 percent in Grade 4 students obtained a zero score. The differences between male and female students were statistically significant for Grade 2 students both in Kyrgyz and Russian.
- **Dictation:** Students' overall performance in dictation was moderate. Students in Grades 1 and 4 performed relatively higher than students in Grade 2. In Kyrgyz, students secured an average score of 9.1 out of possible score of 14 (64 percent score) in Grade 1, 9.5 out of 18 (53 percent score) in Grade 2, and 17.5 out of 22 (80 percent score) in Grade 4. About 8 percent, 5 percent, and 1 percent of students in Grades 1, 2, and 4 obtained a score of zero, respectively. In Russian, students received an average score of 11.3 out of the possible score of 16 (71 percent score) in Grade 1, 12.8 out of 18 (71 percent score) in Grade 2, and 20.3 out of 24 (85 percent score) in Grade 4. About 6 percent of students in Grade 1, 2 percent in Grade 2, and 0.2 percent in Grade 4 obtained a score of zero. The differences between male and female students were statistically significant only for Grade 2 students both in Kyrgyz and Russian.

RECOMMENDATIONS

1. Ample research demonstrates that teacher subject knowledge and participation in in-service training (IST) have a positive impact on student performance. Therefore, teachers at both pre-service and in-service levels need to be introduced to proven research-based methods and strategies for teaching students languages.
2. Research also shows that teachers need long-term guidance and support in order to sufficiently understand and utilize information received through IST programs. Additional in-service and continuous professional development (CPD) activities should take place to ensure teachers continue to develop their skills in utilizing these methodologies in the classroom on a daily basis. Furthermore, these strategies and methods should be incorporated into the pre-service curriculum at every teacher training institute (TTI) so that

all graduating teachers are equipped with the methodologies they will need to be successful in teaching literacy skills to their students.

3. Students have difficulty with reading fluency and comprehension. That suggests students do not have adequate opportunity to practice reading due to a lack of learning materials. It was also supported by the Asian Development Bank (2008) study that schools have practically no teaching and learning materials. Significant efforts need to be made to procure, develop, and distribute quality reading materials and teaching aids so that both students and teachers have easy access to the materials to increase teaching and learning literacy outcomes.
4. This baseline EGRA was aligned with reading standards and performance benchmarks for measuring student progress against those benchmarks. Therefore, it is expected that future EGRAs must employ a standards-based approach and must make a strong connection with the baseline EGRA when constructing future EGRA tests, analyzing the data, and reporting the progress.
5. Simple formative assessment tools for literacy learning should be developed and incorporated into pre-service, in-service, and CPD training programs so teachers can better understand student learning in the classroom and adjust their lesson planning accordingly.

II. BACKGROUND AND CONTEXT

INTRODUCTION

The Early Grade Reading Assessment (EGRA) report has been divided into six sections. The first section provides background information about USAID/Quality Reading Project, including the status of Kyrgyz and Russian languages in the Kyrgyz Republic and the objectives of EGRA in Kyrgyz and Russian. Section two explains the standards-based reading approach and standards. Section three describes the methodology of the EGRA, including an overview of the EGRA instruments and design; the process used to develop and pilot the instruments; sampling procedures; test administration; the process of setting performance benchmark procedures for reading fluency, comprehension, phonological awareness, and dictation; and the process of data analysis. The fourth section provides the findings of the baseline EGRA. The fifth section of the report provides recommendations based on the findings.

QUALITY READING PROJECT

USAID/QRP is working to improve reading skills among primary grade students in Kyrgyzstan and Tajikistan within four years. By drawing on existing structures in both countries, QRP is building capacity from the national level down to the classroom, all supporting the common goal of improving student reading skills. USAID/QRP is working with the Ministry of Education of both countries to create a set of measurable, uniform standards for teachers, students, and other education officials. Based on these standards, USAID/QRP's major activities include teacher training based on reading skills, reading material dissemination, community activities, and government capacity around primary grade reading education. In Kyrgyzstan, USAID/QRP is rolling out the activities in three phases (also called training cohorts): to Talas, Jalalabad, Bishkek, and Chui regions in phase 1, to Osh and Batken in phase 2, and to Issyk-kul and Naryn regions in phase 3.

Some of the key expected achievement of USAID/QRP in Kyrgyzstan include:

- Reinforcing the teaching and learning of reading in 1,300 Kyrgyz schools and reaching more than 7,500 Kyrgyz teachers;
- Establishing grade-level minimum standards for key early literacy skills, such as phonics and reading comprehension;
- Strengthening national systems to administer standardized and classroom-based assessments in order to track student learning and use data for decision making;
- Assisting local institutions and communities to develop and utilize age-level reading materials; and
- Delivering services to over 250,000 students in Kyrgyzstan (60 percent of the Kyrgyz and Russian primary school population).

KYRGYZSTAN CONTEXT

A number of government assessments, international assessments, and donor-supported interventions each separately revealed that reading levels in Kyrgyzstan are low, and in declining trend. According to a study funded by United Nations Children's Fund (UNICEF) (2005), only 44 percent of students in 2005 as compared to 59 percent in 2001 passed a literacy test. Kyrgyzstan's participation in the 2006 Program for International Student Assessment (PISA) showed that Kyrgyz 15 year olds were scoring below proficiency levels. In 2008, the government conducted a World Bank-sponsored National Assessment that showed that

literacy and numeracy skills of Grade 4 students were below acceptable levels. From 2009 to 2011, USAID’s Quality Learning Project conducted studies for Grade 4 and 7 students in Kyrgyzstan and Tajikistan, which further validated the reading trends outlined.

In partnership with the Kyrgyz government, USAID supported an EGRA in 2012 for students in Grades 2, 3, and 4, which tested a sample of more than 4,000 students and undertook a complementary qualitative review of current teaching practices intended to “scratch the surface” of reading pedagogy. The tests were administered in Kyrgyz and Russian languages. The EGRA revealed that although students in Grades 2 to 4 had some of the necessary skills for reading, the Grade 4 students were falling below national and international benchmarks for reading skills related to functional literacy: phonemic awareness, word decoding, and reading fluency. Students also struggled with comprehending texts they were asked to read. It was also evident that almost half of the students across all grades were not able to read at the national standards of reading fluency, the only available benchmark of reading skills. The outcomes in reading comprehension showed that students performed better on literal questions than inferential questions, indicating difficulties with reading comprehension and critical understanding of text, which are aspects of functional literacy.

OBJECTIVES OF EGRA

The objectives of EGRA in Kyrgyz and Russian languages are to set baselines for USAID/QRP on student reading fluency and comprehension skills, and to determine the relationship of these skills to selected factors in their school and home environment. The assessment also provides valid and reliable baseline data on student reading learning outcomes in the Kyrgyz and Russian languages for Grades 1, 2, and 4,¹ disaggregated at the national level.

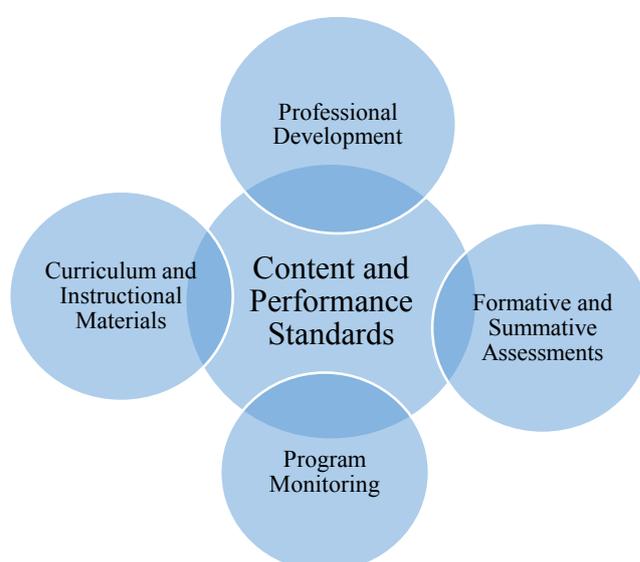
¹ It would have been most feasible and optimized if EGRA was administered only to students in Grades 2 and 4 to examine what students knew and were able to do in reading after 2 years of schooling and at the end of primary school cycle. The QRP included Grade 1 in the baseline as to track the same students over the life of the project to study their reading learning trajectories. Collecting reading performance data from Grade 3 students would not provide any additional information needed to make reading policy intervention decisions.

III. DESCRIPTION OF APPROACH

STANDARDS-BASED APPROACH

The USAID/Quality Reading Project utilized an approach for the Kyrgyz and Russian EGRA that is based on widely accepted research and best known practices for standards-based education. This approach supports developing, implementing, and sustaining a system that can be used to (a) determine what students at Grades 1, 2, and 4 know and are able to do with key competencies of the Kyrgyz and Russian reading standards, and (b) inform educational policy, program planning, and decision making. This approach has been successfully applied in many developed countries (e.g., Canada, China, Finland, Netherlands, and the United States) and developing countries (e.g., Egypt, Ethiopia, Honduras, Namibia, and Pakistan).

FIGURE 1: ELEMENTS OF AN ALIGNED STANDARDS-BASED EDUCATION SYSTEM



The figure above shows the core elements that are necessary for improved student reading performance (Briars and Resnick, 2000; Linn, 2001; McKinsey & Company, 2007), described as follows:

1. Countries must have alignment between academic content standards (i.e., what students are expected to learn at their grade level) and performance standards (i.e., what students are expected to perform on the content standards), classroom instruction, and student assessments.
2. The pedagogical factors must be accompanied by support structures, such as political leadership, management systems, and professional training programs.
3. Schools, districts, and regions must be held accountable through tracking student achievement over time. Kyrgyzstan has already made a significant progress towards standards-based education system. With assistance from USAID/QRP, it has recently developed national reading content standards and reading performance benchmarks, in-service teacher training reading materials (also called IST package) and EGRA aligned with the reading standards, and finally providing training to the teachers on teaching reading and comprehension.

NATIONAL READING STANDARDS

A document of the standards on reading, The Minimum Requirements to Reading in Elementary Schools, was developed in two languages (Russian and Kyrgyz) and translated into English as well. This document was reviewed and discussed during roundtables at Kyrgyz Academy of Education (KAE), among primary school teachers during an in-service training (IST) courses, and with deputy principals of schools. These discussions resulted in some additions to the Minimum Requirements document, as follows:

- Added a summary of the key components and characteristics of each section,
- Specified and focused the formulation of select standards,
- Added classes for certain standards that were only addressed for one or two classes, and
- Adjusted some standards to facilitate tracking progress in classes.

During the development of standards, local and international consultants incorporated feedback, comments, and international best practices. Standards for reading imply a set of rules and regulations defining substantive areas of reading, minimum standards for education, and basic requirements for the quality of teaching of primary grade students. Standards are designed to be followed in the development of curriculum, textbooks, and teaching materials for primary schools. The standards involve the following six components:

1. Phonemic Awareness
2. Phonics
3. Vocabulary
4. Fluency
5. Reading comprehension and literary aspects
6. Listening, comprehension, and writing

(Note: The component “listening, comprehension, and writing” has been added to the five widely used key reading skills. The purpose of this change was to better address some specific requirements and conditions of the Kyrgyzstan national education system.)

All the IST materials as well as Reading Standards for Grades 1 through 4 were approved at the KAE Academic Council’s meeting on May 30, 2014.

IV. PROCEDURE

RESEARCH DESIGN

For the USAID/Quality Reading Project, we collected relevant data corresponding to student reading learning outcomes at the beginning (before any significant implementation occurred) to establish the baseline. We will collect student reading progress in the middle to monitor interim and at the end so as to evaluate student final changes in reading outcomes using reliable, valid, and fair tools appropriately aligned with reading learning outcomes and project interventions.

TABLE 2: CROSS-SECTIONAL AND LONGITUDINAL DESIGN

Cohort	2014	2015	2016	2017
Cross Sectional Design				
1	G2	G2		G2
	G4	G4		G4
2 & 3	G2		G2	G2
	G4		G4	G4
Longitudinal Design				
1	G1			
		G2		
				G4
2 & 3	G2			
			G4	

We have utilized cross-sectional and longitudinal research designs for the EGRA study. For the cross-sectional design (training cohorts 1, 2, and 3) covering Grades 2 and 4, the baseline group will be compared to different groups of students at the same schools and grade levels in subsequent years. The hypothesis is that the scores will increase from the baseline to the posttests, due to the positive effects of the project interventions on literacy.

For longitudinal design, same students' reading performance (in training cohort 1) at Grade 1 in 2014 will be compared with their performances at Grade 2 in 2015 and at Grade 4 in 2017. A key feature of this design is that student reading performances at Grades 1, 2, and 4 are tracked and reported on the same measurement scale. The process of bringing Grades 1, 2, and 4 reading performance onto the same scale is called vertical scaling. The same student cohort's reading performance (in training cohort 2 and 3) at Grade 2 in 2014 will be compared with their performance at Grade 4 in 2016.

INSTRUMENT DEVELOPMENT

ASSESSMENT DESIGN

In order to achieve more accurate measure of student reading outcomes, the USAID/QRP utilizes vertically equated common-matrix sampled design for Grades 1, 2, and 4 (Figure 2). It means that there is a single form for each grade and language in the baseline, containing a set of core matrix items unique to grade level and a set of common items that that appear at the exact same locations in all three grades' instruments. The common set of items brings Grades 1, 2, and 4 reading outcome measures in the baseline on the same reporting scale and also allows tracking students' reading progress from grade to grade.

FIGURE 2: THE VISUAL REPRESENTATION OF THE VERTICALLY EQUATED ASSESSMENT DESIGN

Grade	Core Matrix Items			Common Items
1				
2				
4				

To measure student progress accurately, cross-sectionally (i.e., different cohort of students at the same schools in different years), and longitudinally (i.e., same students in different years) without the tests being exposed, familiarized, or memorized, USAID/QRP will use different sets of instruments in the baseline, mid-term, and at the end of the project. However, the instruments across different years would be linked through a set of common items as well. Therefore, a total of two three-set instruments would be developed for EGRA; one set for Kyrgyz and one set for Russian, with each set consisting of Grades 1, 2, and 4 instruments.

The EGRA instrument has nine sections and a background information section, as described below. Four of the nine sections are timed; students are given a maximum of 2 minutes to finish each timed section, however their *reading fluency is recorded at the end of both 1 and 2 minutes*. Within 2 minutes, it is expected that both students with lower and higher ability would be able to demonstrate adequately what they know and are able to do. The student instrument, administered orally by a trained administrator in one-on-one sessions with individual children, requires about 25 minutes for each student. The ninth section is added to include background information of the students. Each section is outlined below.

Section 1: Letter Name Knowledge (Timed)

The purpose of this section is to assess whether students in Grades 1 and 2 know and are able to read aloud both capital and small letters in Kyrgyz and Russian languages and how fast they can read. A full set of letters are listed in random order. Randomization is used to prevent students from reciting a memorized alphabet.

Section 2: Letter Sound Knowledge (Not Timed)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 know and are able to sound the letters. A list of 10 most frequently used letters identified in primary grade textbooks (Grades 1 to 4) are listed in a row in a clear, large, and familiar font. This is not a timed section. Every student is asked to make the sound of the letters that are typically taught in phonic-based approaches.

Section 3: Initial Sound Identification (Not Timed)

The purpose of this section is to examine whether students in Grades 1 and 2 can identify initial sound of common words used at their grade level. This is a listening exercise. The administrator reads aloud 10 simple words appropriate at grade level (one word at a time). Student is asked to make the initial sound of each of the words.

Section 4: Familiar Word Identification (Timed)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to read aloud familiar words at their grade levels. This section tests 25 familiar words for Grade 1 and 40 words for each Grade of 2 and 4 from primary grade textbooks.

Section 5: Unfamiliar Word Identification (Timed)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to decode unfamiliar words appropriate at their grade levels. This section tests 25 unfamiliar words for Grade 1 and 40 words for each Grade of 2 and 4.

Section 6: Oral Vocabulary (Not Timed)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to understand the meaning of familiar words at their grade levels. This is a listening exercise. The administrator reads aloud 10 words (one word at a time). Students are presented with a set of four pictures for each word read and are asked to identify the picture that best matches the word.

Section 7a: Passage Reading (Timed)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to read aloud a passage with comprehension. This section includes one short paragraph (~25 words for Grade 1, ~40 words for Grade 2, and ~80 words for Grade 4).

Section 7b: Passage Reading Comprehension (Not Timed)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to comprehend the passage they just read. After the student read the passage aloud, he or she is asked three to five simple questions about the passage.

Section 8: Listening comprehension (Not Timed)

The purpose of this section is also to examine whether students in Grades 1, 2, and 4 are able to comprehend the passage they just heard. This section includes one short paragraph (~25 words for Grade 1, ~40 words for Grade 2, and ~80 words for Grade 4). This is a listening exercise. The test administrator reads aloud a passage to the student only once, slowly (about one word per second). After the administrator reads the passage, he or she asks the student three to five comprehension oral questions about the passage.

Section 9: Dictation (Not Timed)

The purpose of this section is to examine whether students in Grades 1, 2, and 4 are able to write a complete sentence correctly, using appropriate formation, size, signs, symbols, and spacing. Student will write the dictation sentence on the lined page. The dictation sentence for Grades 1, 2, and 4 will consists of four to five words, five to six words, and eight to 10 words, respectively.

Section 10: Student Background Questions (Not Timed)

The purpose of this section is to collect more information about student background (e.g., home language, reading culture at home, reading materials and resources available at home) so that the relationship between student performance in reading and factors influencing reading outcomes can be explained.

EGRA ITEM DEVELOPMENT

The USAID/QRP employed the EGRA instruments in Kyrgyz and Russian, adapted for the Kyrgyzstan context, after reviewing Kyrgyz and Russian primary grade reading standards. The reading standards were the basis for the development of test items. USAID/QRP conducted a four-day item development workshop for Kyrgyz and Russian languages concurrently from January 21 to 24, 2014. A total of 67 participants including teachers, language and reading experts, and standard developers attended the workshop. Participants were provided a thorough training on item development principles and procedure before they were involved in item writing activity. Items were strongly aligned with national reading standards and had varied cognitive complexity (i.e., knowledge, comprehension, and application), and difficulty levels (i.e., easy, moderate, and hard). Because it was evident from previous USAID (2012) studies that students had difficulty with reading comprehension and critical understanding of text (particularly with inferential questions), participants were given especial instruction on writing inferential questions related to reading and listening passages.

Participants were provided with lists of most frequently used words for Grades 1, 2, and 4, constructed using respective grade level textbooks; they used those lists for choosing letters and words for letter naming, letter sound, familiar words, and reading passage sections of the EGRA instruments. Moreover, they received over 300 pictures (developed under USAID's Facilitating Reading Acquisition in Multilingual Environments, FRAME/India Project) to develop oral vocabulary questions for all three grades. At the end of the workshop, USAID/QRP had adequate number of items necessary for assembling at least four pilot EGRA instruments in Kyrgyz and Russian.

PILOT TESTING AND ASSEMBLING OF BASELINE INSTRUMENTS

Following the item development workshop, USAID/QRP administered the EGRA pilot test from February 24 to 28, 2014, to a sample of 1,760 students at 20 purposively selected schools (10 Kyrgyz schools and 10 Russian schools) located in two regions. During the data collection, 20 teams of three people each were deployed to pilot test the 24 instruments (i.e., four instruments x three grades x two languages). Each team randomly selected 88 students (30 in Grade 1, 29 in Grade 2, and 29 in Grade 4) from each school and tested them over three days. After we administered the pilot tests, we used an image scanning technology, a cost-effective and sustainable system for speedy, reliable, and accurate data capturing. We then analyzed the pilot test data to examine psychometric properties of the items (e.g., item difficulty² and discrimination³ based on classical and item response theory). In addition, each item was reviewed and analyzed to ensure fairness and balance based on gender, ethnicity, religion, and other factors.

The results of the pilot data analysis were the basis for assembling the baseline instruments to be included in the tests, which were items with acceptable psychometric properties and with varied cognitive complexity and difficulty levels. Before finalizing the instruments, we also looked at how the sequencing of various sections was set to be appropriate and logical, and the common items in three instruments (Grades 1, 2, and 4) were placed identically so that common items would not perform differently in different instruments.

SAMPLING

The baseline administration of the EGRA was set to be administered in 130 (65 pilot schools receiving USAID/QRP interventions and 65 control schools not receiving any USAID/QRP interventions) randomly selected schools drawn from the eight regions. The 65 pilot schools⁴ (16 large, 29 medium, and 20 small; 51 rural, 4 semiurban, and 10 urban) were selected randomly from 1,300 USAID/QRP program schools,⁵ and the 65 control schools (13 large, 35 medium, and 17 small; 55 rural, 4 semiurban, and 6 urban) were selected randomly from the remaining non-USAID/QRP program schools. The distribution of the sample of schools is presented in Table 3.

² The item difficulty (also called *p*-value) is defined as the percentage of the students tested that answered the question correctly and is interpreted on a 0–100 scale. For example, if the *p*-value of an item is .60, then it indicates that 60 percent of the students who participated in the test have answered the item correctly.

³ The item discrimination, defined as how well the item distinguishes between more knowledgeable and less knowledgeable students, is also described on a 0–100 scale. If an item has a discrimination value of .35, then it indicates that the top one-third higher-performing students have a 35 percent higher chance of getting the item right, as compared to the bottom one-third students.

⁴ Large School: More than 300 primary school children; medium School: between 200 to 299 primary school children; small School: less than 200 primary school children.

⁵ Public or international schools with Russian and Kyrgyz or a combination of these two languages of instruction are considered QRP eligible schools.

TABLE 3: DISTRIBUTION OF SCHOOLS BY REGION

Region	Treatment School	Control School	Total
Batken	5	6	11
Bishkek	3	1	4
Chui	9	12	21
Issyl_Kul	8	6	14
Jalal-Abad	14	14	28
Naryn	5	5	10
Osh City	2	1	3
Osh Region	15	17	32
Talas	4	3	7
Total	65	65	130

A systematic sampling procedure was used to select 20 students to be tested from each of the Grades 1, 2, and 4 from every school, for a total of 5,840 students. Out of which, we tested 1,920 students in Russian and 3,920 students in Kyrgyz.

EGRA ADMINISTRATION

TRAINING OF EGRA ADMINISTRATORS

USAID/QRP trained supervisors and test administrators on one-to-one EGRA administration procedure, and how to record students' oral responses into scannable forms (where test administrators shaded in bubbles for students' correct responses, number of letters and words reached within the first and second minutes, and other demographic information). We conducted training of test administrators through a two-step cascading process: an international consultant conducts a 1-day training for supervisors and project staff, and then supervisors conduct a 3-day training in their respective regions for test administrators. These training workshops trained a total of eight supervisors and 164 test administrators.

During the training, the test administrators practiced school-level sampling and test administration procedures. In preparation for various possible scenarios for school environments in Kyrgyzstan, test administrators practiced drawing the student sample by completing the sample selection forms and calculating the sample intervals to select the necessary 20 students for each grade. The final part of the test administrators' training audited the roles and responsibilities of the test administrators, team supervisors, and USAID/QRP office as explicitly described in the administration manual.

EGRA ADMINISTRATION AND MONITORING

The 164 EGRA test administrators were deployed in 41 teams to collect data in the 130 schools. Each team of four administrators was responsible for administering the assessment in five schools. Data collection commenced from April 14 to 30, 2014. During the data collection, the test administrators were instructed to check thoroughly each evening the instruments of each school completed before returning them to their regional supervisor; and regional supervisors were instructed to review the instruments thoroughly before signing off.

Each cohort of EGRA administrators was deployed following their respective round of training, resulting in a staged rollout of the EGRA administration to ensure timely completion. The National Testing Center (NTC), KAE coordinators, MOES representatives, and USAID/QRP

project staff were mobilized to conduct monitoring visits of EGRA administration to ensure proper administration of the assessment and to support troubleshooting as necessary. Although it was planned to administer EGRA to a sample of 5,840 students, we managed to administer to 5,661 students. In some of the sample rural schools, there were as little as eight to 16 students per grade level and therefore did not meet the requirement of minimum of 20 students.

DATA CLEANING AND SCANNING

Once regions completed their data collection and reviewed the instruments, the regional supervisors were called to submit the instruments to USAID/QRP’s central office in Bishkek. Upon collection of the data, the USAID/QRP team completed a thorough review of the data to ensure neatness and completeness. After ensuring the quality of data collected, the instruments were handed out to data-scanning personnel in the USAID/QRP office for scanning. It took about two weeks to complete the scanning of 130 schools data. The scanned files were then sent to AIR’s psychometrician in Washington, DC, for analysis.

RELIABILITY MEASURES OF INTERNAL CONSISTENCY

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of questions are as a group. A “high” value of alpha is often used (along with substantive arguments and possibly other statistical measures) as evidence that the questions measure the same underlying (or latent) construct (e.g., comprehension skill). Reliability coefficients of 0.70 and above are considered to be adequate levels for educational testing (George & Mallery, 2003). For EGRA comprehension (consisting oral vocabulary, reading comprehension, and listening comprehension), phonological awareness (consisting letter sound and initial letter sound), and dictation, the reliability coefficients for all grade and language assessment instruments were estimated at 0.58 to 0.85 (Table 4).

TABLE 4: RELIABILITY OF INTERNAL CONSISTENCY FOR COMPREHENSION AND PHONOLOGICAL AWARENESS AND DICTATION

Grade		Kyrgyz	Russian
1	Comprehension	0.58	0.82
	Phonological Awareness and Dictation	0.81	0.85
2	Comprehension	0.70	0.84
	Phonological Awareness and Dictation	0.80	0.80
4	Comprehension	0.75	0.73
	Phonological Awareness and Dictation	0.75	0.66

The reliability coefficient of 0.81 for phonological awareness and dictation in Kyrgyz can be interpreted as: a student who takes a test that has a reliability coefficient of 0.81 will receive a similar score on a test of equal difficulty 81 out of 100 times. For example, given a student who took phonological awareness and dictation test in Kyrgyz and had a score of 15 out of 34, if the learner takes 100 similar but different tests (with equivalent difficulty), then the student will get about 15 out of 34 in 81 of the 100 tests. Therefore, we managed to estimate student’s true ability in comprehension, phonological awareness and dictation through the 2014 EGRA baseline in the same way that we could have by collecting 100 similar tests.

ANALYTIC STRATEGY

The EGRA data was analyzed in three steps. In step 1, two types of statistics were produced: (1) item-level statistics to examine the psychometric properties of the items (e.g., item

difficulty and item discrimination in classical and *b*-value in item response theory), and (2) student statistics to report students' performance (i.e., raw scores) in each section of the EGRA separately and in combination of sections (e.g., reading comprehension, listening comprehension, and oral vocabulary together). The Rasch model (1980) was used for item-response theory based concurrent item calibration. In step 2, we calculated raw scores for each student in the following combination of EGRA sections to address specific research questions.

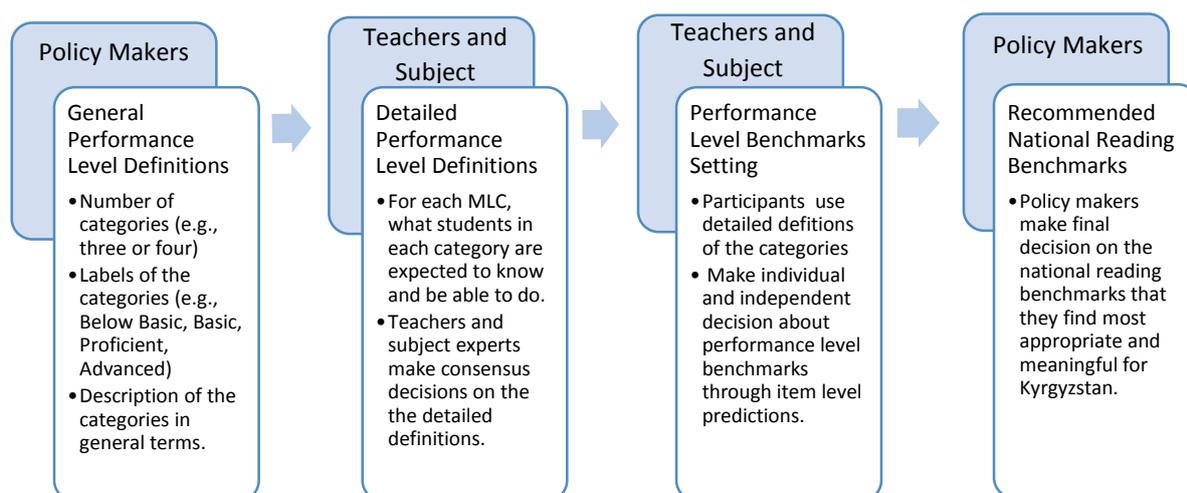
- Timed Sections:
 - Calculated student reading fluency at the end of 1 and 2 minutes. If a student attempted all items before 1 or 2 minutes, we estimated corrected reading fluency if the student had used full 1 or 2 minutes. We also calculated student reading fluency rate between minute 1 and minute 2 for those students, who took more than a minute but less than or equal to two minutes to finish each timed section (i.e., slow readers). It was hypothesized that slow readers read in relatively higher pace in the second minute than in the first minute.
 - Reading fluency rate at the end of minute 1
 - Reading fluency rate at the end of minute 2
 - Reading fluency rate between minute 1 and 2
- Untimed Sections:
 - Calculated separately the raw scores for each section (e.g., letter sound, initial letter sound, oral vocabulary, reading comprehension, listening comprehension, and dictation).
 - Calculated composite raw scores for comprehension that included oral vocabulary, reading comprehension, and listening comprehension.
 - Calculated composite raw scores for phonological consciousness (letter sound and initial letter sound) and dictation.

To make comparisons between rural/semiurban/urban and female/male, a statistical significance test (e.g., *t*-test) was performed in step 3. This is important because simple comparisons are often made between groups without employing tests to ensure that any differences identified are statistically significant. Please note that no regional level analysis was attempted due to lack of adequate sample within each region.

SETTING READING PERFORMANCE BENCHMARKS

Under the USAID/QRP, the MOES has recently approved the primary grade national reading standards, which describe what students in primary grades are **expected to learn** in reading and comprehension. However, it did not define reading **performance benchmarks** (which describe how students in primary grades are expected to perform in the reading standards), except for reading fluency measures (e.g., 25 words per minute for Grade 1, 40 words for Grade 2, 60 words for Grade 3, and 80 words for Grade 4). In order to set performance benchmarks for reading comprehension, phonological awareness, and dictation for primary grades, USAID/QRP implemented a four-step (Figure 3) standard-setting procedure (Loomis & Bourque, 2001; Beck, 2003; Cizek & Bunch, 2007; Perie, 2008).

FIGURE 3: THE VISUAL REPRESENTATION OF THE STANDARD-SETTING PROCESS



1. **DEVELOPING GENERAL DESCRIPTIONS OF PERFORMANCE-LEVEL CATEGORIES:** USAID/QRP collaborated with the MOES and other stakeholders in May 2014 for deciding the number of performance-level categories (that appropriately and meaningfully categorize students based on their performance on the tests), their names, and then defined those categories in general terms without necessarily specifying any national reading standards. The MOES decided to classify students into four performance level categories and labeled them as *Below Standard*, *Standard*, *Proficient*, and *Advanced*, and then developed the general descriptions presented in Table 5.

TABLE 5: GENERAL DEFINITIONS OF PERFORMANCE-LEVEL CATEGORIES

Categories (Levels)	Definition
Advanced	The learner demonstrates excellent knowledge, skills, and abilities in all areas of reading content standards in the appropriate grade (Grade 1—37 or more words per minute, Grade 2—more than 52 words per minute, Grade 3—more than 72 words per minute, Grade 4—92 or more words read per minute).
Proficient:	The learner demonstrates a high level of knowledge, skills, and abilities in all areas of reading content standards in the appropriate grade (Grade 1—more than 25 words per minute, Grade 2—more than 40 words per minute, Grade 3—more than 60 words per minute, Grade 4—more than 80 words per minute).
Standard	The learner demonstrates the requisite knowledge, skills, and abilities within the reading content standards in the appropriate grade (Grade 1—25 words per minute, Grade 2—40 words per minute, Grade 3—60 words per minute, Grade 4—80 words reads per minute).
Below Standard	The learner demonstrates partial knowledge and insufficient level of skills in reading content standards in the appropriate grade (Grade 1—up to 25 words per minute, Grade 2—up to 40 words per minute, Grade 3—up to 60 words per minute, Grade 4—up to 80 words per minute).

2. **DEVELOPING DETAILED DEFINITIONS OF PERFORMANCE-LEVEL CATEGORIES:** The USAID/QRP conducted a 3-day workshop from June 23 to 25, 2014, for developing detailed definitions of performance level categories for each of

the Grades 1 through 4 and in both Kyrgyz and Russian. A total of 20 teachers (11 in Kyrgyz and nine in Russian), language experts, and standard developers attended the workshop. The participants developed detailed consensus definitions for each competency within each component (e.g., phonemic consciousness) of each of the Grades 1 through 4’s reading standards. Here is an example for Grade 1 in Kyrgyz language (Table 6):

TABLE 6: AN EXAMPLE OF A DETAILED DEFINITION OF A COMPETENCY WITHIN A COMPONENT

	Баштапкы	Базалык	Натыйжалуу (продуктивдуу)	Мыкты алдыга кете алат
Тыбыштык (фонематикалык) кабыл алуу	Сөздөгү тыбыштардын санын жана иретин, тыбыш менен тамганын айырмасын айтып берүүдө жаңылса.	Сөздөгү тыбыштардын санын жана иретин, тыбыш менен тамганын айырмасын айтып бере алса.	Сөздөгү тыбыштардын санын жана иретин, тыбыш менен тамганын айырмасын жогорку деңгээлде далилдеп бере алса.	Сөздөгү тыбыштардын санын жана иретин, тыбыш менен тамганын айырмасын далилдеп, мыкты деңгээлде түшүндүрүп бере алса.

- 3. ESTABLISHING INTERIM CUT SCORES FOR PERFORMANCE-LEVEL CATEGORIES:** Following developing detailed definitions of performance level categories, USAID/QRP conducted a 1-day workshop with the same group of participants who attended in developing detailed performance level descriptions on June 26, 2014, to establish an interim set of cut scores for each Grade of 1, 2, and 4 and for both Kyrgyz and Russian. We used a yes–no variation of the Angoff method (Plake & Ferdous, 2005) for establishing the cut scores. Participants provided two rounds of individual and independent ratings of each item of EGRA in both Kyrgyz and Russian, and feedback data was provided to the participants between the rounds. The round 2 ratings were used for estimating the interim cut scores, as it was assumed to be more reliable, robust, and informed than the ratings in round 1. The USAID/QRP’s international consultant analyzed the round 2 rating data, calculated multiple sets of cut scores for each grade and language (Kyrgyz and Russian) by adjusting varied level of judgmental errors (i.e., standard error of mean), and their corresponding impact data (i.e., percentage of students in performance level categories). The standard error of mean was calculated using the following formula:

$$\text{Standard Error of Mean (SE)} = \frac{SD}{\sqrt{(N-1)}}$$

Where:

SD = Standard deviation of participants’ item performance ratings within each component of EGRA; therefore, SE was calculated for each section of EGRA separately.

N = Number of participants who attended the standard-setting workshop.

- 4. RECOMMENDING CUT SCORES AND DECISION MODEL:** The USAID/QRP collaborated with the MOES in deciding the recommended cut scores for classifying student reading ability based on a *compensatory* and *conjunctive* model. For example, in a compensatory model, weak performance in reading comprehension can be traded

off against strong performance on reading fluency when calculating a score for a classification decision. The conjunctive model requires that the individual attain a minimum level of national performance standards (e.g., cutoff or passing score) in both reading fluency and comprehension sections. A number of meetings, followed by a half-day workshop on June 27, 2014, were conducted with MOES's higher officials in finalizing the cut scores. The MOES chose a set of cut scores that they thought were meaningful and appropriate for the Kyrgyzstan context.

V. FINDINGS

This section presents the findings of EGRA on Grade 1, 2, and 4 students' performance in the Kyrgyz and Russian languages. The sections in the EGRA test (i.e., letter name, letter sound, initial letter sound, familiar words, unfamiliar words, reading passage, reading comprehension, listening comprehension, and dictation) are presented throughout, along with findings in school location (i.e., rural, semiurban, and urban) and gender comparisons.

TABLE 7: DISTRIBUTION OF EGRA SAMPLE OF STUDENTS

Grade	Kyrgyz			Russian		
	Male	Female	Total	Male	Female	Total
1	171	162	333	130	135	265
2	986	914	1900	321	320	641
4	1004	989	1902	307	296	603
	Rural	Semiurban	Total	Rural	Semiurban	Total
1	276	0	56	185	20	60
2	1579	100	221	471	60	110
4	1590	102	210	433	60	110

Table 7 represents the distribution sample of students who participated in Kyrgyz and Russian EGRAs. There were 333 students in Grade 1, 1,900 students in Grade 2, 1,902 students in Grade 4 who tested for Kyrgyz; and 265 in Grade 1, 641 in Grade 2, and 603 in Grade 4 who tested for Russian. When the students were classified into school types, there were 276 rural and 56 urban Grade 1 students; 1,579 rural, 100 semiurban, and 221 urban Grade 2 students; and 1,590 rural, 102 semiurban, and 210 urban Grade 4 students who tested in Kyrgyz; there were 185 rural, 20 semiurban, and 60 urban Grade 1 students; 471 rural, 60 semiurban, and 110 urban Grade 2 students; and 433 rural, 60 semiurban, and 110 urban Grade 4 students who tested in Russian.

NATIONAL READING FLUENCY BENCHMARKS

According to national reading fluency benchmarks, students at Grades 1, 2, and 4 must read at least 25, 40, and 80 grade-appropriate words per minute, respectively. There were three sections in EGRA that assessed student reading fluency: familiar words, unfamiliar words, and reading passage. The following table presents the percentage of students in Grades 1, 2, and 4 who met the national reading fluency benchmarks in each of the sections, separately and collectively. The last column, "benchmark met," refers to a conjunctive decision about the student's overall reading fluency on the EGRA test; i.e., what percentage of students in each of these Grade levels met national fluency benchmark in all three sections separately. A student is said to have met Grade 1 national reading fluency benchmark if a Grade 1 student read at least 25 familiar words, 25 unfamiliar words, and 25 words in a reading passage per minute.

A little more than one-tenth of Grades 1 and 2 and one-hundredth of Grade 4 students met national reading fluency benchmarks in both Kyrgyz and Russian. But, only 1 percent of students met Grade 4 benchmarks. It was due to not meeting the benchmark for unfamiliar words. Students can read faster only familiar words and reading passages that contain familiar words; this could be due to rote memorization of the words. They struggle in reading unfamiliar words. What it suggests is that students have difficulty with decoding.

GENDER COMPARISON

Students' performance in reading fluency was also compared by gender; it was quite distinct that female students consistently performed significantly higher than their counterparts in all three sections across all three grade levels.

TABLE 8: PERCENTAGE OF STUDENTS MEETING KYRGYZ NATIONAL READING FLUENCY BENCHMARKS BY GENDER

Grade	Gender	Kyrgyz			
		Familiar Words	Unfamiliar Words	Reading Passage	Benchmark Met
1	Male	47.4	7.0	21.6	7.0
	Female	58.1	17.9	35.2	17.9
	Total	52.5	12.3	28.2	12.3
2	Male	46.8	9.5	22.1	8.8
	Female	66.7	18.7	39.2	17.3
	Total	56.3	14.0	30.3	12.9
4	Male	27.6	0.8	23.2	0.6
	Female	40.5	2.1	44.8	1.8
	Total	33.7	1.4	33.5	1.2

Kyrgyz

It is evident from Table 8, about 53 percent, 12 percent, and 28 percent of Grade 1 students met the national benchmark (25 words per minute) in familiar words, unfamiliar words, and reading passage, respectively. In Grade 2, 56 percent, 14 percent, and 30 percent students met the national fluency benchmark (40 words per minute) in familiar words, unfamiliar words, and reading passage, respectively. For Grade 4, only 34 percent of students met national fluency benchmarks (80 words per minute) in familiar words, only 1 percent in unfamiliar words, and 34 percent in reading passage. When we calculated what percentage of students in each of the Grades 1, 2, and 4 met national reading fluency benchmarks in all three sections separately and conjunctively, only 12 percent of students in Grade 1, 13 percent of students in Grade 2, and 1 percent of students in Grade 4 met the benchmarks collectively. As with the Kyrgyz language tests, female students outperformed male students in most sections across three grade levels, except for Grade 1 familiar (46 females vs. 48 males) and unfamiliar (15 females vs. 20 males) words.

TABLE 9: PERCENTAGE OF STUDENTS MEETING RUSSIAN NATIONAL READING FLUENCY BENCHMARKS BY GENDER

Grade	Gender	Russian			
		Familiar Words	Unfamiliar Words	Reading Passage	Benchmark Met
1	Male	47.7	20.0	33.8	18.5
	Female	46.0	14.8	39.2	14.1
	Total	46.8	17.4	36.6	16.2
2	Male	56.0	8.7	36.8	7.5
	Female	61.2	15.0	52.2	12.5
	Total	58.6	11.9	44.5	10.0
4	Male	20.2	1.3	32.7	1.0
	Female	26.4	2.3	38.5	2.0
	Total	23.3	1.9	32.4	1.5

Russian

A similar pattern was also observed for the Russian language (Table 9); students tend to do well in familiar word and reading passage sections, but most struggle with unfamiliar words.

About 47 percent, 17 percent, and 37 percent of Grade 1 students met national reading fluency benchmark (25 words per minute) in familiar words, unfamiliar words, and reading passage, respectively. For Grade 2, about 59 percent, 12 percent, and 45 percent of students met national fluency benchmark of 40 words per minute in familiar words, unfamiliar words, and reading passage, respectively. On the other hands, students in Grade 4 performed very poorly in familiar (23 percent) and unfamiliar (2 percent) words, but relatively better in reading passage (32 percent). When students' performance were collectively examined in all three sections together (i.e., conjunctively), it was revealed that about one-sixth (16 percent) of Grade 1, one-tenth (10 percent) of Grade 2, and one-fiftieth (2 percent) of Grade 4 students met national reading fluency benchmarks at their respective grade levels.

TABLE 10: PERCENTAGE OF STUDENTS MEETING KYRGYZ NATIONAL READING FLUENCY BENCHMARKS BY SCHOOL TYPE

Grade	Type	Kyrgyz			
		Familiar Words	Unfamiliar Words	Reading Passage	Benchmark Met
1	Rural	50.7	11.6	26.1	11.6
	Semiurban				
	Urban	62.5	16.1	37.5	16.4
	Total	52.5	12.3	28.2	12.3
2	Rural	55.3	13.4	29.5	12.4
	Semiurban	67.0	21.0	40.0	20.0
	Urban	59.2	15.0	32.2	13.1
	Total	56.3	14.0	30.3	12.9
4	Rural	32.4	1.4	32.3	1.2
	Semiurban	47.1	2.0	43.1	1.0
	Urban	37.7	1.0	37.6	1.0
	Total	33.7	1.4	33.5	1.2

SCHOOL TYPE COMPARISON

Kyrgyz

When student reading fluency measure was compared by school type (i.e., rural, semiurban, and urban), it was quite evident that students in semiurban schools tended to meet national reading fluency benchmarks more consistently, relative to their counterparts in rural and urban schools, except for Grade 1, where no schools were selected from semiurban areas;⁶ the differences found were statistically significant (Table 10). Overall, students performed very poorly in reading unfamiliar words irrespective of their school types; the lowest 1 percent Grade 4 urban students and highest 21 percent Grade 2 semiurban students met the respective grade-appropriate benchmarks. On the other hand, students performed relatively better in familiar words than in reading passage; more than one-half of Grades 1 (51 percent rural, 63 percent urban), more than one-half of Grade 2 (55 percent rural, 67 percent semiurban, 59 percent urban), and one-third of Grade 4 (32 percent rural, 47 percent semiurban, 38 percent urban) students met the benchmarks. In reading passage, one-fourth to one-third Grades 1 (26 percent rural, 38 percent urban) and Grade 2 (30 percent rural, 40 percent semiurban, 32 percent urban), and more than one-third of Grade 4 (32 percent rural, 43 percent semiurban, 38 percent urban) students met the benchmarks. When students were evaluated based on three sections conjunctively, it was found that only 12 percent rural and 16 percent urban students for Grade

⁶ No schools in semiurban areas were selected through the random selection; this was pure chance.

1; 12 percent rural, 20 percent semiurban, and 13 percent urban students for Grade 2; and 1 percent rural, 1 percent semiurban, and 1 percent urban students for Grade 4 met the national reading fluency benchmarks.

TABLE 11: PERCENTAGE OF STUDENTS MEETING RUSSIAN NATIONAL READING FLUENCY BENCHMARKS BY SCHOOL TYPE

Grade	Type	Russian			
		Familiar Words	Unfamiliar Words	Reading Passage	Benchmark Met
1	Rural	42.7	15.7	32.9	14.1
	Semiurban	60.0	25.0	40.0	25.0
	Urban	55.0	20.0	46.6	20.0
	Total	46.8	17.4	36.6	16.2
2	Rural	53.9	10.2	40.3	8.5
	Semiurban	70.0	6.7	38.3	5.0
	Urban	72.7	21.8	65.4	19.1
	Total	58.6	11.9	44.5	10.0
4	Rural	22.4	1.6	28.4	1.6
	Semiurban	26.6	1.7	25.0	1.7
	Urban	24.6	2.7	51.8	0.9
	Total	23.3	1.9	32.4	1.5

Russian

A mixed pattern was observed for Russian language results (Table 11); Grades 1 (60 percent) and Grade 4 (27 percent) students in semiurban schools outperformed students in rural (43 percent in Grade 1 and 22 percent in Grade 4) and urban (55 percent in Grade 1 and 25 percent in Grade 4) schools in familiar words, whereas students in urban Grade 2 schools (73 percent) performed significantly better than their peers in rural (54 percent) and semiurban (70 percent) schools. Overall, about one-half to more than two-third students in Grades 1 and 2, and only one-fourth Grade 4 students met the benchmarks in familiar words. In unfamiliar words, student performance remained low, compared to familiar words and reading passage; the percentage of students who met the benchmarks ranged between 2 percent of Grade 4 rural students to 25 percent of Grade 1 semiurban students. On the other hand, for reading passage, 47 percent of Grade 1, 65 percent of Grade 2, and 52 percent of Grade 4 students in urban schools met the Russian fluency benchmarks consistently across three grade levels, compared to 33 percent in rural and 40 percent in semiurban Grade 1, 40 percent in rural and 38 percent in semiurban Grade 2, and 28 percent in rural and 25 percent in semiurban Grade 4 students. When students were evaluated based on three sections conjunctively, it was revealed that only 14 percent rural, 25 percent semiurban, and 20 percent urban students for Grade 1; 9 percent rural, 5 percent semiurban, and 19 percent urban students for Grade 2; and 2 percent rural, 1 percent semiurban, and 1 percent urban students for Grade 4 met the national reading fluency benchmarks.

NATIONAL COMPREHENSION BENCHMARKS

The national reading comprehension benchmarks were set at benchmark-setting workshop and were later approved by the MOES. The benchmarks were defined with respect to the percentage of comprehension questions (containing reading and listening comprehension and oral vocabulary sections of EGRA) that students at different grade levels are expected to answer

correctly. Table 12 shows minimum score required for students in Grades 1, 2, and 4 to be classified as meeting national comprehension benchmarks in Kyrgyz and Russian.

TABLE 12: PERCENTAGE OF SCORES—NATIONAL COMPREHENSION BENCHMARKS

Grade	Kyrgyz	Russian
1	75%	71%
2	67%	59%
4	70%	67%

For example, a student in Grade 1 is said to be meeting national comprehension benchmark in Kyrgyz if he or she receives a 75 percent score on a comprehension test consisting of oral vocabulary knowledge and reading and listening comprehension questions. On the other hand, a student in the same grade level needs to get a 71 percent score for meeting national comprehension benchmark in Russian (Table 12).

TABLE 13: PERCENTAGE OF STUDENTS MEETING NATIONAL COMPREHENSION BENCHMARKS BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	81.3	58.5
	Female	79.0	69.6
	Total	80.1	64.2
2	Male	82.6	80.0
	Female	89.4	84.1
	Total	85.8	82.1
4	Male	83.9	87.6
	Female	87.5	91.9
	Total	85.6	89.7

GENDER COMPARISON

Kyrgyz

It was revealed that about four-fifth (80 percent) of Grade 1, six-seventh (86 percent) of Grades 2 and Grade 4 students met national reading comprehension benchmarks (Table 13). When compared by gender, female students performed higher than their counterparts in Grades 2 and 4, except in Grade 1. A total of 79 percent female versus 81 percent male in Grade 1, 89 percent female versus 83 percent male in Grade 2, and 88 percent female versus 84 percent male in Grade 4 students met the comprehension benchmarks.

Russian

In Russian, 64 percent of students in Grade 1, 82 percent in Grade 2, and 90 percent in Grade 4 met national comprehension benchmarks (Table 13). A similar pattern of result was also obtained in the Russian language when compared by gender. Female students performed significantly better than their male peers in all three grades levels; 70 percent of Grade 1, 84 percent of Grade 2 and 92 percent of Grade 4 females met the comprehension benchmarks, compared to 59 percent of Grade 1, 80 percent of Grade 2, and 88 percent of Grade 4 males.

Although higher percent of students met national reading comprehension benchmark, but strong performance in oral vocabulary compensated highly for relatively weak performance in reading and listening comprehension.

SCHOOL TYPE COMPARISON

Kyrgyz

When we compared the percentage of students meeting national comprehension benchmarks was compared by school type, we observed that 82 percent of Grade 1 students in rural schools as compared to 71 percent in urban schools met the national benchmark (Table 14). In Grade 2, a total of 86 percent, 93 percent, and 84 percent of students in rural, semiurban, and urban schools met the benchmark, respectively. On the other hand, about eight-ninth of students in Grades 4 at semiurban (89 percent) and urban (88 percent) schools as compared to their counterparts in rural schools (85 percent) met the benchmark.

TABLE 14: PERCENTAGE OF STUDENTS MEETING NATIONAL COMPREHENSION BENCHMARKS BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	81.9	59.5
	Semiurban		90.0
	Urban	71.4	70.0
	Total	80.1	64.2
2	Rural	85.7	78.6
	Semiurban	93.0	86.7
	Urban	83.7	94.5
	Total	85.8	82.1
4	Rural	85.0	86.2
	Semiurban	89.2	95.0
	Urban	88.1	98.2
	Total	85.6	89.7

Russian

In contrast, substantially higher percent of students in urban schools met the national comprehension benchmarks than their peers in rural and semiurban schools, except for Grade 1 (Table 14). In Grade 1, 60 percent rural, 90 percent semiurban, and 70 percent urban student met the national benchmark. On the other hands, 95 percent Grade 2 (as compared to 79 percent rural and 87 percent semiurban) and 98 percent Grade 4 (as compared to 86 percent rural and 95 percent semiurban) students in urban schools met the benchmark.

NATIONAL PHONOLOGICAL AND DICTATION BENCHMARKS

The national phonological and dictation benchmarks were recommended and approved by the MOES. The benchmarks were defined with respect to the percentage of phonological and dictation scores (containing letter sound, initial letter sound, and dictation sections of EGRA) that students at different grade levels are expected to obtain on the test. Table 15 shows minimum score required for students in Grades 1, 2, and 4 to be classified as meeting national phonological and dictation benchmarks in Kyrgyz and Russian.

TABLE 15: PERCENTAGE OF SCORES REQUIRED FOR MEETING NATIONAL PHONOLOGICAL AND DICTATION BENCHMARKS

Grade	Kyrgyz	Russian
1	76%	75%
2	74%	63%
4	66%	65%

For example, a student in Grade 1 is said to be meeting national phonological and dictation benchmark in Kyrgyz if he or she receives a 76 percent score on a test that consists of phonological awareness and dictation questions (Table 15). On the other hand, a student in the same grade level needs to get a 75 percent score in order to be classified as meeting national benchmark in Russian.

Students performed well in phonological consciousness and dictation. More than three-fourths of students in both Kyrgyz (Grades 1 and 4) and Russian (all three grades) languages met national phonological and dictation benchmarks. However, strong performance in letter sound and initial letter sound compensated highly for relatively weak performance in dictation.

GENDER COMPARISON

Kyrgyz

Students performed relatively better in phonological awareness and dictation than in comprehension sections. Over three-fourths of grade 1 (71 percent male and 80 percent female) and nine-tenths of grade 4 students (89 percent male and 96 percent) met national phonological and dictation benchmarks table 16). On the other hand, just more than one-half of grade 2 students (49 percent male and 65 percent female) met the benchmark. The difference between male and female students in each grade level was quite noticeable.

TABLE 16: PERCENTAGE OF STUDENTS MEETING NATIONAL PHONOLOGICAL AND DICTATION BENCHMARKS BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	71.3	71.5
	Female	79.6	78.5
	Total	75.4	75.1
2	Male	48.5	85.4
	Female	65.2	91.6
	Total	56.5	88.5
4	Male	88.7	94.1
	Female	95.7	98.6
	Total	92.0	96.4

Russian

In general, students in all grade levels irrespective of their gender performed higher in phonological awareness and dictation (Table 16). In Grade 1, just more than three-fourth of Grade 1 student (72 percent male and 79 percent female), eight-ninth of Grade 2 students (85 percent male and 92 percent female), and more than nine-tenth of Grade 4 students (94 percent male and 99 percent female) met national phonological and dictation benchmark. The differences between the percentage of male and female students meeting the benchmark were significant across the grade levels.

TABLE 17: PERCENTAGE OF STUDENTS MEETING NATIONAL PHONOLOGICAL AND DICTATION BENCHMARK BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	75.7	69.2
	Semiurban		85.0
	Urban	73.2	90.0
	Total	75.4	75.1

Grade	Type	Kyrgyz	Russian
2	Rural	55.5	85.8
	Semiurban	62.0	96.7
	Urban	61.1	95.5
	Total	56.5	88.5
4	Rural	91.5	96.3
	Semiurban	92.2	96.7
	Urban	61.1	96.4
	Total	92.0	96.4

SCHOOL TYPE COMPARISON

Kyrgyz

When the percentage of students meeting national phonological and dictation benchmarks was compared by school type, it was revealed that students in semiurban schools performed relatively better than students in rural and urban schools (Table 17). About 75 percent of Grade 1 students in rural schools (as compared to 73 percent in urban schools), 62 percent Grade 2 students in semiurban schools (as compared to 56 percent in rural and 61 percent in urban schools), and 92 percent Grade 4 students in semiurban schools (as compared to 92 percent in rural and 61 percent in urban) met the national benchmark. The differences among rural, semiurban, and urban schools were significant, except for the difference between semiurban and urban in Grade 2 and rural and semiurban in Grade 4.

Russian

A mixed pattern was observed for the Russian language. Overall, students in semiurban and urban schools performed very similarly, no significant difference between them was noticeable, except for Grade 1 (Table 17). Just 90 percent of Grade 1 urban (compared to 69 percent in rural and 85 percent in semiurban), 97 percent of Grade 2 semiurban (compared to 86 percent in rural and 96 percent in urban) and 97 percent of Grade 4 semiurban (compared to 96 percent in rural and 96 percent in urban) students met the national benchmark.

NATIONAL READING FLUENCY AND COMPREHENSION BENCHMARKS

A conjunctive decision model was utilized to find out what percent of students are meeting both reading fluency and comprehension benchmarks separately. The following table shows the national reading fluency and comprehension benchmarks for Kyrgyz and Russian languages. It would be expected that lower percentage of students would meet both national reading fluency and comprehension benchmarks separately and conjunctively.

TABLE 18: NATIONAL FLUENCY AND COMPREHENSION BENCHMARKS

Grade	Kyrgyz	Russian
1	<i>Fluency: 25 words per minute & Comprehension: 75% score</i>	<i>Fluency: 25 words per minute & Comprehension: 71% scores</i>
2	<i>Fluency: 40 words per minute & Comprehension: 67% score</i>	<i>Fluency: 40 words per minute & Comprehension: 59% score</i>
4	<i>Fluency: 80 words per minute & Comprehension: 70% score</i>	<i>Fluency: 80 words per minute & Comprehension: 67% score</i>

A student is said to have met Grade 1 national reading fluency and comprehension benchmarks in Kyrgyz if he or she reads at least 25 words per minute (as the measure of fluency) and obtains a score of at least 75 percent in comprehension sections (comprising oral vocabulary, reading comprehension, and listening comprehension) on the EGRA test (Table 18).

Although three-fourth students in both Kyrgyz and Russian languages met national reading comprehension benchmark due to their strong performance in oral vocabulary, however most of them did not meet the reading fluency benchmark due to their weak performance in reading unfamiliar words.

TABLE 19: PERCENTAGE OF STUDENTS MEETING NATIONAL READING FLUENCY AND COMPREHENSION BENCHMARKS BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	6.4	13.1
	Female	16.8	12.6
	Total	11.4	12.8
2	Male	8.3	7.5
	Female	16.4	12.2
	Total	12.2	9.8
4	Male	0.6	1.0
	Female	1.8	2.0
	Total	1.2	1.5

GENDER COMPARISON

Kyrgyz

Because it was expected that lower percentage of students would meet both national reading fluency and comprehension benchmarks separately and conjunctively, only 11 percent of students in Grade 1, 12 percent in Grade 2, and 1 percent in Grade 4 met the national benchmarks (Table 19). However, higher percentage of female students than the male students met the benchmarks. About 17 percent of Grade 1 female students (compared to 6 percent of male students), 16 percent of Grade 2 female (compared to 8 percent of male), and 2 percent of Grade 4 female (compared to 1 percent of male) met the benchmarks.

Russian

Although a higher percentage of students met national reading fluency and comprehension benchmarks in the Russian language than in the Kyrgyz language, the percentages for students who met the national benchmarks in Russian were also very low, only 13 percent of Grade 1 (13 percent males and 13 percent females), 10 percent of Grade 2 (8 percent males and 12 percent females), and 2 percent of Grade 4 (1 percent males and 2 percent females) (Table 19).

SCHOOL TYPE COMPARISON

Kyrgyz

When the percentage of students meeting national fluency and comprehension benchmarks was compared by school type, a mixed result was observed. Students in Grade 1 at urban schools and students in Grade 2 at semiurban schools performed statistically significantly better than their counterparts in rural and urban schools, respectively (Table 20); about 13 percent of Grade 1 urban students (compared to 11 percent rural) and 20 percent of Grade 2 semiurban students (compared to 12 percent rural and urban) met the benchmarks. On the other hand, around 1 percent of Grade 4 student in each rural, semiurban, and urban school met the same national benchmark.

TABLE 20: PERCENTAGE OF STUDENTS MEETING NATIONAL READING FLUENCY AND COMPREHENSION BENCHMARKS BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	11.2	10.8
	Semiurban		25.0
	Urban	12.7	15.0
	Total	11.4	12.8
2	Rural	11.8	8.3
	Semiurban	20.0	5.0
	Urban	11.8	19.1
	Total	12.2	9.8
4	Rural	1.2	1.6
	Semiurban	1.0	1.7
	Urban	1.0	0.9
	Total	1.2	1.5

Russian

A similar pattern was also revealed for the Russian language. Overall, students in Grade 1 at semiurban schools and students in Grade 2 at urban schools performed better than students in Grade 1 rural and urban schools and Grade 2 rural and semiurban schools, respectively (Table 20). About one-fourth (25 percent) of Grade 1 semiurban (compared to one-tenth, or 10 percent, rural students, and one-sixth, or 15 percent, urban students) and about one-fifth (19 percent) of Grade 2 urban students (compared to one twelfths, or 8 percent, rural students, and one-twentieth, or 5 percent, rural students) met the national benchmarks. In contrast, only 2 percent of students in Grade 4 rural and semiurban schools and 1 percent of students in urban schools met the benchmarks.

NATIONAL LITERACY BENCHMARKS

A conjunctive decision model was utilized to define the national literacy benchmark; students’ performance in each reading fluency, comprehension, phonological awareness, and dictation section would be counted separately to find out whether they have or have not met the national literacy benchmark. The following table shows the national reading fluency, comprehension, phonological awareness, and dictation benchmarks for Kyrgyz and Russian languages.

TABLE 21: NATIONAL LITERACY BENCHMARKS

Grade	Kyrgyz	Russian
1	<i>Fluency: 25 words per minute; Comprehension: 75% score; & Phonological and Dictation: 76% score</i>	<i>Fluency: 25 words per minute; Comprehension: 71% scores; & Phonological and Dictation: 75% score</i>
2	<i>Fluency: 40 words per minute; Comprehension: 67% score; & Phonological and Dictation: 74% score</i>	<i>Fluency: 40 words per minute; Comprehension: 59% score; & Phonological and Dictation: 63% score</i>
4	<i>Fluency: 80 words per minute; Comprehension: 70% score; & Phonological and Dictation: 66% score</i>	<i>Fluency: 80 words per minute; Comprehension: 67% score; & Phonological and Dictation: 65% score</i>

A student is said to have met Grade 1 national literacy benchmarks in Kyrgyz if he or she reads at least 25 words per minute (as the measure of fluency) and obtains at least 75 percent score in comprehension sections (comprises of oral vocabulary, reading comprehension, and

listening comprehension) and a 76 percent score in phonological awareness and dictation sections on the EGRA test (Table 21).

TABLE 22: PERCENTAGE OF STUDENTS MEETING NATIONAL LITERACY BENCHMARKS BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	6.4	12.3
	Female	16.8	12.6
	Total	11.4	12.5
2	Male	7.3	7.2
	Female	15.2	11.9
	Total	11.1	9.5
4	Male	0.6	1.0
	Female	1.8	2.0
	Total	1.2	1.5

GENDER COMPARISON

Kyrgyz

As expected, the percentage of students who met national literacy benchmarks (i.e., fluency, comprehension, phonological awareness, and dictation) would be low, only 11 percent students in Grades 1 and 2, and 1 percent in Grade 4 met the national literacy benchmarks (Table 22). The difference between the percentage of male and female students who met the benchmark was noticeable. About 17 percent of Grade 1 female students (compared to 6 percent males), 15 percent of Grade 2 females (compared to 7 percent males), and 2 percent of Grade 4 females (compared to 1 percent males) met the benchmarks.

Russian

Although the percentage of students who met national literacy benchmarks in the Russian language was very similar to the ones for the Kyrgyz language, the gap between male and female student performance was significant only for Grade 2. Only 13 percent of Grade 1 (12 percent males and 13 percent females), 10 percent of Grade 2 (7 percent males and 12 percent females), and 2 percent of Grade 4 (1 percent males and 2 percent females) students met the national benchmarks (Table 22).

SCHOOL TYPE COMPARISON

Kyrgyz

When the percentage of students meeting national literacy benchmarks was compared by school type, a mixed result was observed. Students in Grade 1 at urban schools and students in Grade 2 at semiurban schools performed better than their counterparts in rural and urban schools, respectively (Table 23); about 13 percent of Grade 1 urban students (compared to 11 percent rural) and 19 percent of Grade 2 semiurban students (compared to 11 percent rural and urban) met the benchmarks. On the other hand, around 1 percent of Grade 4 student in each rural, semiurban, and urban school met the same national benchmarks.

Only one-tenth (10 percent) of Grades 1 and 2, and one-hundredth (one percent) of Grade 4 students met national literacy benchmarks, though large number of students met comprehension, phonological and dictation benchmarks. This is due to their poor performance in reading fluency, particularly in unfamiliar words.

TABLE 23: PERCENTAGE OF STUDENTS MEETING NATIONAL LITERACY BENCHMARKS BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	11.2	10.3
	Semiurban		25.0
	Urban	12.7	15.0
	Total	11.4	12.5
2	Rural	10.6	8.1
	Semiurban	19.0	5.0
	Urban	10.9	18.2
	Total	11.1	9.5
4	Rural	1.2	1.6
	Semiurban	1.0	1.7
	Urban	1.0	0.9
	Total	1.2	1.5

Russian

Overall, students in Grade 1 at semiurban schools and students in Grade 2 at urban schools performed statistically significantly better than students in Grade 1 rural and urban schools and Grade 2 rural and semiurban schools, respectively (Table 23). About one-fourth (25 percent) of Grade 1 semiurban (compared to one-tenth, or 10 percent, rural students and one-sixth, or 15 percent, urban students) and one-fifth (18 percent) of Grade 2 urban students (compared to one-twelfth, or 8 percent, rural students, and one-twentieth, or 5 percent, rural students) met the national benchmarks. In contrast, only 2 percent of students in Grade 4 rural and semiurban schools and 1 percent of students in urban schools met the benchmarks.

COMPREHENSION PERFORMANCE-LEVEL CATEGORIES

In addition to setting benchmarks for meeting or not meeting the national standards, the MOES also set multiple benchmarks relative to the national standards on a four-point performance-level categorical scale. The four points are called performance-level categories (i.e., *Initial*, *Standard*, *Proficient*, and *Advanced*), and students are classified into those categories based on their performance in reading comprehension (comprising of oral vocabulary and reading and listening comprehension). The following table provides benchmarks for the categories in the Kyrgyz and Russian languages.

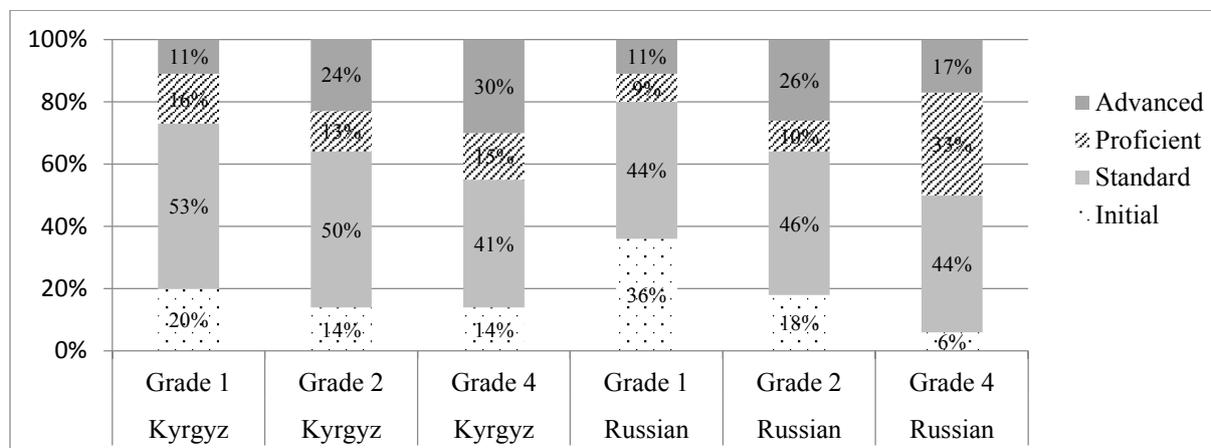
TABLE 24: BENCHMARKS FOR COMPREHENSION PERFORMANCE-LEVEL CATEGORIES

Language	Grade	% Score in Comprehension		
		Initial/Standard	Standard/Proficient	Proficient/Advanced
Kyrgyz	1	75%	94%	100%
	2	67%	89%	94%
	4	70%	90%	95%
Russian	1	71%	88%	94%
	2	59%	88%	94%
	4	67%	89%	100%

For example, a student in Grade 1 is going to be classified as standard, proficient, or advanced in Kyrgyz reading comprehension if he or she receives a 75 percent, 94 percent, or 100 percent score, respectively on a comprehension test (Table 24). The performance level categories are represented by ranges of scores. For example, if a student receives a score between 0 and 74

percent, 75 and 93 percent, 94 and 99 percent, or 100 percent in reading comprehension, then he or she will be classified as Initial, Standard, Proficient, or Advanced student, respectively.

FIGURE 4: PERCENTAGE DISTRIBUTION OF STUDENTS BY COMPREHENSION PERFORMANCE-LEVEL CATEGORIES



Kyrgyz

A similar pattern was observed across three grade levels and languages; the majority of the students in their respective grade levels fell into Standard category. In Grade 1, 20 percent of students were classified into Initial, 53 percent into Standard, 16 percent into Proficient, and 11 percent into Advanced. In Grade 2, 14 percent of students were classified into Initial, 50 percent into Standard, 13 percent into Proficient, and 24 percent into Advanced. In Grade 4, 14 percent of students were classified into Initial, 41 percent into Standard, 15 percent into Proficient, and 30 percent into Advanced (Figure 4).

Russian

In contrast, in the Russian language, about 36 percent of students in Grade 1 were classified into Initial, 44 percent into Standard, 9 percent into Proficient, and 11 percent into Advanced. In Grade 2, 18 percent of students were classified into Initial, 46 percent into Standard, 10 percent into Proficient, and 26 percent into Advanced. On the other hand, 6 percent of students in Grade 4 were classified into Initial, 44 percent into Standard, 33 percent into Proficient, and 17 percent into Advanced (Figure 4).

PHONOLOGICAL AND DICTATION PERFORMANCE LEVEL CATEGORIES

Students were also classified into the same four performance level categories based on their performance in phonological awareness (comprising letter sound knowledge and initial letter sound) and dictation. The following table provides benchmarks for the categories.

TABLE 25: CUT SCORES FOR PHONOLOGICAL AND DICTATION PERFORMANCE LEVEL CATEGORIES

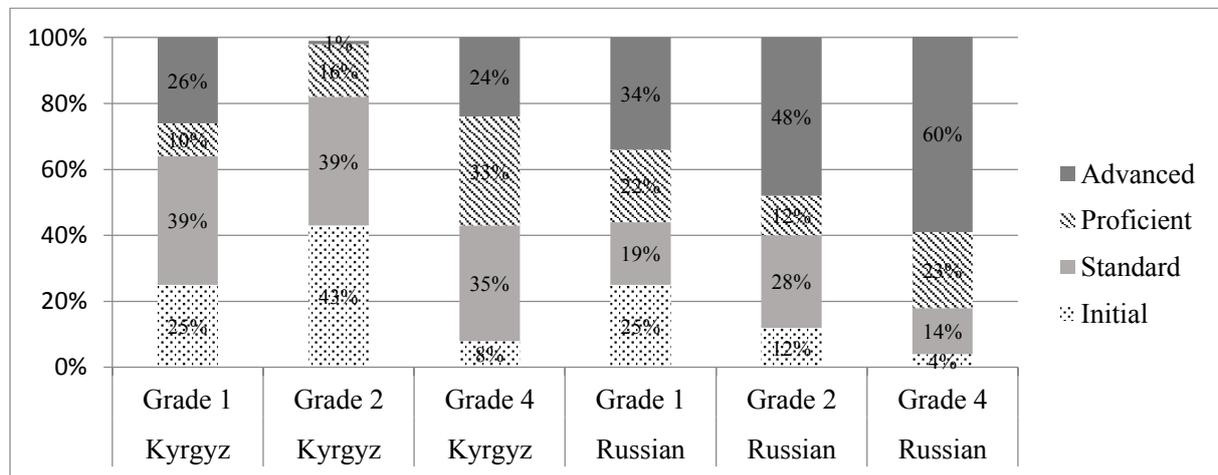
Language	Grade	% Score in Phonological Awareness and Dictation		
		Initial/Standard	Standard/Proficient	Proficient/Advanced
Kyrgyz	1	76%	94%	97%
	2	74%	89%	100%
	4	66%	88%	97%
Russian	1	75%	86%	92%
	2	63%	82%	87%
	4	65%	79%	88%

For example, a student in Grade 1 is classified as Standard, Proficient, or Advanced in Kyrgyz phonological awareness and dictation if he or she receives a 76 percent, 94 percent, or 97 percent score, respectively, on a phonological and dictation test that consists of letter sound, initial letter sound, and dictation sections (Table 25). As stated earlier, performance level categories are represented by ranges of scores. For example, if a student receives a score in between 77 percent and 93 percent in phonological awareness and dictation, then he or she will be classified as a Standard student.

Kyrgyz

The majority of the students in their respective grade levels were classified into the Standard category, except for Grade 2. In Grade 1, 25 percent of students were classified into Initial, 39 percent into Standard, 10 percent into Proficient, and 26 percent into Advanced. In Grade 2, 43 percent of students were classified into Initial, 39 percent into Standard, 16 percent into Proficient, and 1 percent into Advanced. Whereas, 8 percent of students in Grade 4 were classified into Initial, 35 percent into Standard, 33 percent into Proficient, and 24 percent into Advanced (Figure 5).

FIGURE 5: PERCENT DISTRIBUTION OF STUDENTS BY PHONOLOGICAL AND DICTATION PERFORMANCE LEVEL CATEGORIES



Russian

In Russian, the majority of the students were classified into the Advanced category across all three grade levels. About 34 percent in Grade 1, 48 percent in Grade 2, and 60 percent in Grade 4 were classified as Advanced. The remaining students in Grade 1 were classified into 25 percent Initial, 19 percent Standard, and 22 percent Proficient. In Grade 2, 12 percent students were classified into Initial, 28 percent into Standard, and 12 percent into Proficient. While in Grade 4, 4 percent students were classified into Initial, 14 percent into Standard, and 23 percent into Proficient (Figure 5).

SUBTASKS COMPARISON

This section presents the findings of EGRA on Grade 1, 2, and 4 students' performance in the Kyrgyz and Russian languages. The sections in the EGRA test (i.e., letter name, letter sound, initial letter sound, familiar words, unfamiliar words, reading passage, reading comprehension, listening comprehension, and dictation) are presented throughout, along with findings in school location (i.e., rural, semiurban, and urban) and gender comparisons.

LETTER NAME KNOWLEDGE

The first component of the EGRA assessed letter recognition skills. Each student was handed out an EGRA instrument booklet that included all capital and small letters of Kyrgyz or Russian alphabets. These letters were randomly arranged in the booklets.

TABLE 26: LETTER NAME KNOWLEDGE FLUENCY BY GENDER

Grade	Gender	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1	End of Min. 1	End of Min. 2	Between Min. 1
1	Male	56.4	84.6	38.6	43.6	66.7	32.4
	Female	60.4	93.3	44.0	41.3	63.4	30.9
	Total	58.3	88.6	41.1	42.5	65.0	31.6
2	Male	56.8	87.7	45.8	52.8	79.0	51.2
	Female	65.1	93.2	49.9	57.8	80.1	50.2
	Total	60.7	89.9	47.4	55.3	79.5	50.8

Note. End of Min. 1 refers to number of letters students read correctly in one minute; if the student took less than 1 minute then his or her score was estimated for the entire minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to the number of letters the students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

GENDER COMPARISON

Kyrgyz

It was revealed from the baseline data that student performance in letter name knowledge varied significantly across grade levels and gender. The students at Grades 1 and 2 read 58 and 61 Kyrgyz letters correctly in 1 minute (Table 26). About 36 percent of Grade 1 and 40 percent of Grade 2 students attempted to finish the entire section in less than 1 minute, but only three students got a score of zero. On the other hand, students in Grades 1 and 2, those who took more than 1 minute but less than or equal to 2 minutes to finish the entire letter naming section, read 89 and 90 letters correctly in two minutes, respectively. It was evident from minutes 1 and 2 data that students (those who took more than a minute to finish the entire section) do not always read at a linear pace in minute 1 and 2; students at Grade 1 read at a faster (89 – 41 = 48 letters in minute 1 vs. 41 letters between minutes 1 and 2) pace in the first minute than in the second minute. Students in Grade 2 read at a faster pace (90 – 47 = 43 letters in minute 1 vs. 47 letters between minutes 1 and 2) in the second minute than in the first minute. When students' performance in letter name knowledge was compared by gender, it was quite distinct that female students consistently performed significantly higher than their counterparts at the end of minutes 1 (57 vs. 65 for Grade 2) and the end of minute 2 (85 vs. 93 for Grade 1 and 88 vs. 93 for Grade 2), respectively.

The majority of the students were able to read Kyrgyz and Russian letter names. Only three students in Kyrgyz and none in Russian samples obtained zero score.

Students in Grade 2 who took more than 1 minute to finish the entire section read must faster in the second minute than in the first minute.

Russian

The students at Grades 1 and 2 read 43 and 65, and 55 and 80 Russian letters correctly at the end of minutes 1 and 2, respectively (Table 26). However, about 35 percent of Grade 1 and 55 percent of Grade 2 students attempted the entire section in less than 1 minute, and no students got a score of zero. A similar pattern was also observed when comparing their (those took more

than 1 minute and less than or equal to 2 minutes to finish the entire section) reading pace at the end of minute 1 and 2. Students in Grade 1 read at a faster pace (65 – 32 = 33 letters in minute 1 vs. 32 letters between minutes 1 and 2) in the first minute than in the second minute. On the other hand, students in Grade 2 read faster pace (80 - 51 = 29 letters in minute 1 vs. 51 letters between minutes 1 and 2) in the second minute than in the first minute. A mixed pattern was observed when letter naming was compared by gender across grades. The male students in Grade 1 performed better (44 vs. 41 at the end of minute 1, and 66 vs. 63 at the end of minute 2) than their female counterparts, though not statistically significant. The pattern was reversed for Grade 2 students in that the female students in Grade 2 obtained significantly higher scores than male students at the end of minute 1 (52 vs. 58), though the difference at the end of minute 2 (79 vs. 80) was non-significant.

Most of the students obtained very close to perfect scores in letter sound knowledge. In Kyrgyz, none in Grades 1 and 4, and only four students in Grade 2 obtained zero score. In Russian, two students in Grade 1, none in Grade 2, and one in Grade 4 obtained zero score.

SCHOOL TYPE COMPARISON

Kyrgyz

When students' letter naming knowledge in Kyrgyz were compared by school type, it was revealed that students in Grade 1 urban schools and students in Grade 2 semiurban schools performed better than their peers in the rural schools, and rural and urban schools, respectively. Moreover, students in Grade 1 rural and urban schools read 58 and 61 letters correctly in 1 minute and 87 and 95 letters in 2 minutes, respectively (Table 27). Whereas, students in Grade 2 rural, semiurban, and urban schools read at a rate of 61, 68, and 59 letters in 1 minute and 89, 96, and 91 letters in 2 minutes, respectively.

TABLE 27: LETTER NAME KNOWLEDGE FLUENCY BY SCHOOL TYPE

Grade	Type	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1 and 2	End of Min. 1	End of Min. 2	Between Min. 1 and 2
1	Rural	57.7	87.4	40.9	39.7	60.9	28.2
	Semiurban				40.7	66.3	26.7
	Urban	61.2	94.7	41.7	51.5	79.3	46.1
	Total	58.3	88.6	41.1	42.5	65.0	31.6
2	Rural	60.5	89.4	47.2	53.8	78.5	49.5
	Semiurban	68.1	95.6	52.3	58.5	73.0	42.3
	Urban	59.2	90.9	47.3	59.9	86.1	58.8
	Total	60.7	89.9	47.4	55.3	79.5	50.8

Note. End of Min. 1 refers to number of letters students read correctly in 1 minute; if the student took less than 1 minute, then his or her score was estimated for the entire 1 minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to number of letters students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

Russian

In contrast, students in Grades 1 and 2 in urban schools performed higher than their counterparts in rural and semiurban schools. In Grades 1 and 2, students in urban schools read 52 letters (as compared to 40 letters in rural and 41 letters in semiurban) and 60 letters (as compared to 54 letters in rural and 59 letters in semiurban) in minute 1, respectively (Table

26). There were significant differences between urban and rural/semiurban for Grade 1, and rural and semiurban/urban for Grade 2, however no meaningful differences were observed between rural and semiurban in Grade 1 and semiurban and urban schools in Grade 2. Although the same pattern sustains for minute 2 (i.e., urban schools outperformed rural and semiurban schools), the differences among rural, semiurban, and urban were all statistically significant.

TABLE 28: LETTER SOUND KNOWLEDGE BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	9.7	8.9
	Female	9.9	9.0
	Total	9.8	8.9
2	Male	9.5	9.1
	Female	9.6	9.1
	Total	9.5	9.1
4	Male	9.5	9.4
	Female	9.6	9.3
	Total	9.5	9.3

LETTER SOUND

The second component of the EGRA is assessing phonological awareness. Each student received an EGRA instrument booklet that included a list of the 10 most frequently used letters in the Kyrgyz or Russian alphabet (Table 28). These letters were chosen based on the letter-frequency lists generated by the USAID/QRP team from Grades 1 and 2 reading textbooks, and letters were randomly arranged in the booklets. The maximum score allocated for this section was 10.

GENDER COMPARISON

Kyrgyz

Students in Grades 1, 2, and 4 obtained closest to the perfect score, irrespective of the language. In Kyrgyz, students in Grade 1, 2, and 4 obtained average scores of 9.8, 9.5, and 9.5 out of a possible score of 10, respectively (Table 28). No students in Grade 1, four students in Grade 2, and no students in Grade 4 obtained zero score in Kyrgyz letter sound. About 87 percent of Grade 1, 72 percent of Grade 2, and 71 percent of Grade 4 students obtained perfect score (i.e., 10 out of 10). When compared by gender, female students performed better than male students, but the difference was only statistically significant for Grade 4.

Russian

On the other hand, students at Grades 1, 2, and 4 received average scores of 8.9, 9.1, and 9.3 in Russian, respectively (Table 28). Two students in Grade 1, no students in Grade 2, and one student in Grade 4 received zero score in Russian letter sound. Over one-half students in Grade 1 (54 percent) and three-fifth of Grades 2 (59 percent) and 4 (64 percent) obtained the perfect score. When compared by gender, female students performed better than male students consistently across grade, though the differences were not statistically significant.

SCHOOL TYPE COMPARISON

Kyrgyz

When students' performance in letter sound was compared by school type, no meaningful differences among rural, semiurban, and urban schools were observed (Table 29). In general, students in all three grades irrespective of their school types obtained 9.4 or more out of 10 in

Kyrgyz; however, Grade 1 rural students secured the highest score of 9.8. No statistical significant differences were observed among the school types.

TABLE 29: LETTER SOUND KNOWLEDGE BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	9.8	8.8
	Semiurban		9.7
	Urban	9.6	9.2
	Total	9.8	8.9
2	Rural	9.6	9.1
	Semiurban	9.5	9.3
	Urban	9.4	9.2
	Total	9.5	9.1
4	Rural	9.5	9.3
	Semiurban	9.5	9.5
	Urban	9.5	9.4
	Total	9.5	9.3

Russian

In contrast, students in Russian letter sound knowledge obtained average scores 8.8 to 9.7 out of a possible score of 10 (Table 29). The Grade 1 students in the rural and semiurban schools obtained the average score of 8.8 and 9.7, respectively. The students in Grades 2 and 4 obtained average scores of 9.0 or more, regardless of their school types. The differences among school types were not statistically significant.

INITIAL LETTER SOUND

The third section of EGRA also assessed phonological awareness. The purpose of this section was to examine whether students in Grades 1 and 2 can identify initial sound of common words used at their grade level. This was a listening exercise. The administrator reads aloud 10 one-syllable simple words (one word at a time) and asked the students to make the initial sound of each of the words. The maximum score allocated for this section was 10.

TABLE 30: INITIAL LETTER SOUND BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	9.5	8.9
	Female	9.5	8.7
	Total	9.5	8.8
2	Male	9.0	8.8
	Female	9.1	9.1
	Total	9.1	9.0

GENDER COMPARISON

Kyrgyz

Similar pattern was also obtained for initial letter sound knowledge as it was obtained for letter sound knowledge. Both male and females students performed very similarly in Kyrgyz and Russian; no noticeable difference was observed. In Kyrgyz, male and female students at Grade 1 obtained the exact same score of 9.5 out of 10, while male and female students at Grade 2

obtained average scores of 9 and 9.1, respectively (Table 30). Two students in each of Grades 1 and 2 obtained a score zero, while 76 percent students in Grade 1 and 45 percent in Grade 2 obtained perfect score (10 out of 10)

Russian

In Russian, male and female students in Grades 1 and 2 received average scores of 8.9 and 8.7, and 8.8 and 9.1, respectively (Table 30). The difference between male and female students was only statistically significant for Grade 2. There were seven students in Grade 1 and no students in Grade 2 obtained zero scores. About two-fifth of Grade 1 (59 percent) and one-half of Grade 2 (54 percent) students obtained the perfect score.

More than half of the students finished the entire familiar word section in less than a minute. In Kyrgyz, only three students in Grade 1, eight in Grade 2, and two in Grade 4 obtained zero score.

In Russian, three students in Grade 1, two in Grade 2, and none in Grade 4 obtained zero score.

TABLE 31: INITIAL LETTER SOUND BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	9.5	8.6
	Semiurban		8.9
	Urban	9.5	9.5
	Total	9.5	8.8
2	Rural	9.1	8.9
	Semiurban	9.1	9.4
	Urban	8.9	9.1
	Total	9.1	9.0

SCHOOL TYPE COMPARISON

Kyrgyz

A similar pattern was also observed when compared by school type. For Kyrgyz, students at Grade 1 in rural and urban schools obtained the exact same average score of 9.5 out of a possible score of 10 (Table 31). Whereas, students at Grade 2 in rural, semiurban, and urban schools received average scores of 9.1, 9.1, and 8.9, respectively. There were no significant differences observed among the school types.

Russian

On the other hand, for Russian, although there were noticeable differences in students' performance in initial letter sound knowledge across rural, semiurban, and urban schools, no differences were found statistically significant. Students' performances across grade level and school type ranged between 8.6 for Grade 1 rural school and 9.4 for Grade 4 semiurban schools. In Grade 1, students in rural, semiurban, and urban schools obtained average scores of 8.6, 8.9, and 9.5, respectively. While in Grade 2, they obtained average scores of 8.9, 9.4, and 9.1, respectively (Table 31).

FAMILIAR WORD IDENTIFICATION

The fourth section of EGRA was familiar word identification. The purpose of this section was to examine whether students in Grades 1, 2, and 4 were able to read aloud familiar words at their grade levels. A list of 25 familiar words at Grade 1 and 40 words at each Grade 2 and 4 were selected from primary grade textbooks and randomly arranged in the student booklets.

TABLE 32: FAMILIAR WORD IDENTIFICATION BY GENDER

Grade	Gender	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1 and 2	End of Min. 1	End of Min. 2	Between Min. 1 and 2
1	Male	27.3	26.5	15.8	27.6	25.4	15.4
	Female	32.7	27.8	16.6	26.2	24.0	15.9
	Total	29.9	27.0	16.2	26.9	24.7	15.7
2	Male	43.8	42.6	22.7	44.2	46.2	29.1
	Female	56.8	46.1	24.8	51.8	51.4	31.5
	Total	50.1	43.8	23.4	48.0	48.6	30.2
4	Male	65.7	49.1	26.3	61.7	55.8	30.6
	Female	76.2	54.1	31.7	66.8	62.9	36.0
	Total	70.7	50.4	27.7	64.2	59.0	33.0

Note. End of Min. 1 refers to number of letters students read correctly in 1 minute; if the student took less than 1 minute, then his or her score was estimated for the entire 1 minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to number of letters students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

GENDER COMPARISON

Kyrgyz

When we compared student performance in familiar word identification, statistically significant differences were observed across grade levels and gender. The students at Grades 1, 2, and 4 read 30, 50, and 71 per minute, respectively (Table 32). About 54 percent of Grade 1, 60 percent of Grade 2, and 84 percent of Grade 4 students attempted the entire section in less than 1 minute; only three students at Grade 1, eight students at Grade 2, and two students at Grade 4 got a score of zero. On the other hand, for the students who took more than 1 minute but less than or equal to 2 minutes to finish the entire familiar word identification section, the students at Grade 1 read 27 words, Grade 2 read 44 words, and Grade 4 read 50 words correctly. It was evident from minutes 1 and 2 data that students do not read always at a linear pace; students (those who took more than a minute but less than or equal to two minutes) read at a faster ($27 - 16 = 11$ words in minute 1 vs. 16 words between minutes 1 and 2 for Grade 1, $44 - 23 = 21$ words in minute 1 vs. 23 words between minutes 1 and 2 for Grade 2, and $50 - 28 = 22$ words in minute 1 vs. 28 words between minutes 1 and 2 for Grade 4) pace in the second minute than in the first minute. When students' performance in familiar word identification was compared by gender, it was quite distinct that female consistently performed better than their counterparts at the end of minutes 1 (33 vs. 27 for Grade 1, 57 vs. 44 for Grade 2 and 76 vs. 66 for Grade 4) and minute 2 (28 vs. 27 for Grade 1, 46 vs. 43 for Grade 2, and 54 vs. 49 for Grade 4). However, the differences were only statistically significant for all three grade levels at the end of minute 1, and for Grade 2 at the end of minute 2.

Russian

In contrast, the students at Grades 1, 2, and 4 read 27, 48, and 64, and 25, 49, and 59 Russian familiar words correctly at the end of minutes 1 and 2, respectively (Table 32). However, about 55 percent of Grade 1, 62 percent of Grade 2, and 85 percent of Grade 4 students attempted the entire section in less than a minute; three students in Grade 1, two students in Grade 2, and no students in Grade 4 got a score of zero. A similar pattern was also observed when comparing their (those took more than 1 minute and less than or equal to 2 minutes to finish the entire

section) reading pace at the end of minute 1 and 2. Students read at a faster pace (25 - 16 = 9 words in minute 1 vs. 16 words between minutes 1 and 2 for Grade 1, 49 - 30 = 19 words in minute 1 vs. 30 words between minutes 1 and 2 for Grade 2 and 59 - 33 = 26 words in minute 1 vs. 33 words between minutes 1 and 2 for Grade 4) in the second minute than in the first minute. A mixed pattern was observed when it was compared by gender across grades. The male students at Grade 1 performed better (28 vs. 26 at the end of minute 1 and 25 vs. 24 at the end of minute 2) than their female counterparts. Whereas in Grades 2 and 4, female students obtained significantly higher scores than male students both at the end of minute 1 and 2.

SCHOOL TYPE COMPARISON

Kyrgyz

When students' familiar word identification in Kyrgyz were compared by school type (i.e., rural, semiurban, and urban), it was revealed that students in Grade 1 urban schools (as compared to rural schools) and Grades 2 and 4 semiurban schools (as compared to rural and urban schools), performed relatively higher. Students at Grade 1 rural and urban schools read 29 and 37 words correctly in 1 minute and 26 and 30 words in 2 minutes, respectively. Whereas, students in Grade 2 rural, semiurban, and urban schools read at a rate of 49, 58, and 56 words in 1 minute and 43, 53, and 44 words in 2 minutes. For Grade 4, students in semiurban schools (78 words in 1 minute and 61 words in 2 minutes) outperformed students in rural (70 words in 1 minute and 50 words in 2 minutes) and urban (72 words in 1 minute and 47 words in 2 minutes) schools both in 1 minute and 2 minutes (Table 33).

TABLE 33: FAMILIAR WORD IDENTIFICATION BY SCHOOL TYPE

Grade	Type	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1	End of Min. 1	End of Min. 2	Between Min. 1
1	Rural	28.5	26.4	15.7	24.7	23.6	13.2
	Semiurba				30.1	26.0	12.8
	Urban	37.0	30.4	18.0	32.5	29.6	28.9
	Total	29.9	27.0	16.2	26.9	24.7	15.7
2	Rural	48.8	43.3	23.1	45.6	47.0	27.3
	Semiurba	57.8	52.9	34.0	51.0	51.1	33.4
	Urban	55.9	43.7	21.3	56.5	60.7	52.6
	Total	50.1	43.8	23.4	48.0	48.6	30.2
4	Rural	70.0	50.2	27.2	63.0	58.9	32.0
	Semiurba	78.1	60.6	32.9	67.4	31.0	13.0
	Urban	72.1	47.4	31.3	67.6	66.2	43.7
	Total	70.7	50.4	27.7	64.2	59.0	33.0

Note. End of Min. 1 refers to number of letters students read correctly in 1 minute; if the student took less than 1 minute, then his or her score was estimated for the entire 1 minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to number of letters students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

Russian

In contrast, in Russian, students at Grade 1 rural, semiurban and urban schools read at 25, 30, and 33 familiar words per minute, students at Grade 2 rural, semiurban, and urban schools read at 46, 51, and 57 words per minute, and students at Grade 4 rural, semiurban, and urban schools read at 63, 67, and 68 words per minute (Table 33). The differences among them were

statistically significant, except for Grade 4 semiurban and urban schools. Again, the same pattern was observed for both languages about reading pace in minute 1 versus minute 2; students tend to read faster in minute 1 than in minute 2.

UNFAMILIAR WORD IDENTIFICATION

The fifth section of EGRA was unfamiliar word identification. The purpose of this section was to examine whether students in Grades 1, 2, and 4 were able to decode successfully unfamiliar words appropriate at their grade levels. A list of 25 unfamiliar words for Grade 1 and 40 words for each Grade 2 and 4 were randomly arranged in the student booklets.

TABLE 34: UNFAMILIAR WORD IDENTIFICATION BY GENDER

Grade	Gender	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1 and	End of Min. 1	End of Min. 2	Between Min. 1 and
1	Male	13.1	19.5	9.9	17.7	23.5	13.9
	Female	16.3	20.8	12.6	16.9	22.4	13.1
	Total	14.7	20.1	11.1	17.3	22.9	13.5
2	Male	21.9	33.5	17.5	24.8	42.6	22.3
	Female	27.3	40.0	21.5	28.4	45.9	24.7
	Total	24.5	36.3	19.2	26.6	44.1	23.4
4	Male	28.0	39.1	21.6	35.7	50.8	31.5
	Female	34.8	45.9	27.0	41.3	52.0	42.1
	Total	31.3	41.9	23.8	38.4	51.3	35.7

Note. End of Min. 1 refers to number of letters students read correctly in 1 minute; if the student took less than 1 minute, then his or her score was estimated for the entire 1 minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to number of letters students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

GENDER COMPARISON

Kyrgyz

Overall, student performance in unfamiliar word identification was very poor relative to their performance in familiar word identification. Students at Grades 1, 2, and 4 read about 15, 25, and 31 unfamiliar words per minute, respectively (Table 34). About 23 percent of Grade 1, 21 percent of Grade 2, and 35 percent of Grade 4 students attempted the entire unfamiliar word section in less than 1 minute; six students at Grade 1, seven students at Grade 2, and seven students at Grade 4 got a score of zero. For the students who took more than 1 minute but less than or equal to 2 minutes to read the entire section, Grades 1, 2, and 4 students read 20, 36, and 42 words in two minutes, respectively. When their reading paces were compared at the end of first and second minutes, it was revealed that students in Grades 1, 2, and 4 read faster ($20 - 11 = 9$ words in minute 1 vs. 11 words between minutes 1 and 2 for Grade 1; $36 - 19 = 17$ words in minute 1 vs. 19 words between minutes 1 and 2 for Grade 2; $42 - 24 = 18$ words in minute 1 vs. 24 words between minutes 1 and 2 for Grade 4) in the second minute than in the first minute. Female students consistently performed significantly higher than their counterparts at the end of both minutes 1 (16 vs. 13 for Grade 1, 27 vs. 22 for Grade 2 and 35 vs. 28 for Grade 4) and minute 2 (40 vs. 34 for Grade 2, and 46 vs. 39 for Grade 4).

Russian

In contrast, students in Grade 1, 2, and 4 read 17, 27, and 38 unfamiliar Russian words in 1 minute and 23, 44, and 51 unfamiliar words in 2 minutes, respectively (Table 34). About 26 percent of Grade 1, 16 percent of Grade 2, and 47 percent of Grade 4 students attempted the entire unfamiliar word section in less than 1 minute; eight students in Grade 1, six students in Grade 2, and no students in Grade 4 got a score of zero. Similar pattern was also observed in the reading pace of students who took more than 1 minute but less than or equal to 2 minutes to finish the entire section. Grades 1, 2, and 4 read faster (23 - 14 = 9 words in minute 1 vs. 14 words between minutes 1 and 2 for Grade 1; 44 - 23 = 21 words in minute 1 vs. 23 words between minutes 1 and 2 for Grade 2; 51 - 36 = 15 words in minute 1 vs. 36 words between minutes 1 and 2 for Grade 4) in the second minute than in the first minute. The male (24 percent vs. 22 percent) students in Grade 1 and female students in Grade 2 (46 percent vs. 43 percent) and Grade 4 (52 percent vs. 51 percent) obtained higher scores than their counterparts. However, the differences were only statistically significant for Grades 2 (both at the end of minute 1 and 2) and 4 (at the end of minute 1).

Only one-fourth of the sample students finished the entire unfamiliar word section in less than 1 minute. On average, students read about 15 to 17 words in Grade 1, 25 to 27 words in Grade 2, and 31 to 38 words in Grade 4 correctly.

SCHOOL TYPE COMPARISON

Kyrgyz

When students' unfamiliar word identification in Kyrgyz were compared by school type (i.e., rural, semiurban, and urban), it was observed that students in Grade 1 urban schools performed better than those in rural schools, and students in Grades 2 and 4 semiurban schools performed better than those in rural and urban schools. In Kyrgyz, students at Grade 1 rural and urban schools read 14 and 17 words correctly in 1 minute and 20 and 23 words in 2 minutes, respectively (Table 35). Whereas, students in Grade 2 rural, semiurban, and urban schools read at a rate of 24, 34, and 25 words in 1 minute and 36, 44, and 36 words in 2 minutes, respectively. For Grade 4, students in semiurban schools (36 words in 1 minute and 49 words in 2 minutes) outperformed students in rural (31 words in 1 minute and 42 words in 2 minutes) and urban (34 words in 1 minute and 40 words in 2 minutes) schools both in 1 minute and 2 minutes.

TABLE 35: UNFAMILIAR WORD IDENTIFICATION BY SCHOOL TYPE

Grade	Type	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1 and 2	End of Min. 1	End of Min. 2	Between Min. 1 and 2
1	Rural	14.2	19.6	10.7	16.0	21.2	10.2
	Semiurban				19.7	25.7	12.9
	Urban	17.0	22.5	13.3	20.5	28.7	26.9
	Total	14.7	20.1	11.1	17.3	22.9	13.5
2	Rural	23.8	35.9	19.0	25.4	42.2	21.5
	Semiurban	33.5	44.1	22.8	26.5	46.3	22.1
	Urban	25.4	36.0	19.1	31.9	52.3	34.0
	Total	24.5	36.3	19.2	26.6	44.1	23.4
4	Rural	30.6	41.7	23.6	37.2	50.9	37.0
	Semiurban	35.8	49.3	26.2	37.9	51.6	27.0
	Urban	33.7	39.8	25.4	43.5	53.2	36.2
	Total	31.3	41.9	23.8	38.4	51.3	35.7

Note. End of Min. 1 refers to number of letters students read correctly in 1 minute; if the student took less than 1 minute, then his or her score was estimated for the entire 1 minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to number of letters students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

Russian

On the other hand, students in urban schools across three grade levels performed better than their counterparts in rural and semiurban schools. Students at Grades 1, 2, and 4 in rural, semiurban, and urban schools read at 16, 20, and 21; 25, 27, and 32; and 37, 38, and 44 unfamiliar words in minute 1, and at 21, 26, and 29; 42, 46, and 52; and 51, 52, and 53 words in minute 2, respectively (Table 35).

ORAL VOCABULARY KNOWLEDGE

The sixth section of EGRA was oral vocabulary. The purpose of this section was to examine whether students in Grades 1, 2, and 4 were able to understand meaning of familiar words at their grade levels. The administrator read aloud 10 words (one word at a time). Students were presented with a set of four pictures for each word read in the student booklet and were asked to identify the picture that best matched the word.

Most of the students obtained very close to perfect scores in oral vocabulary knowledge. In Kyrgyz, none in Grades 1, and two students in Grades 2 and 4 obtained a zero score. In Russian, three students in Grade 1, and none in Grades 2 and 4 obtained a zero score.

TABLE 36: ORAL VOCABULARY BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	9.2	9.4
	Female	9.2	9.6
	Total	9.2	9.5
2	Male	9.2	8.9
	Female	9.3	9.1
	Total	9.2	9.0
4	Male	9.7	9.1
	Female	9.7	9.2
	Total	9.7	9.1

GENDER COMPARISON

Kyrgyz

Overall, students at Grades 1, 2, and 4 performed very similarly in both Kyrgyz and Russian oral vocabulary sections, and no observed differences were found to be statistically significant, except for Grade 2 Kyrgyz (Table 36). In Kyrgyz, students at Grade 1, 2, and 4 obtained average scores of 9.2, 9.2, and 9.7 out of a possible score of 10, respectively. No students in Grade 1, two students in Grade 2, and two students in Grade 4 obtained zero score, while 49 percent of Grade 1, 51 percent of Grade 2, and 77 percent of Grade 4 students obtained perfect score (10 out of 10) in Kyrgyz oral vocabulary knowledge.

Russian

On the other hand, students at Grades 1, 2, and 4 received average scores of 9.5, 9.0, and 9.1 in Russian oral vocabulary knowledge, respectively (Table 36). Three students in Grade 1, no students in Grade 2, and no students in Grade 4 received a score of zero. About three-fourth (74 percent) of Grade 1, and one half of Grades 2 (51 percent) and 4 (46 percent) students

obtained the perfect score. When compared by gender, no meaningful difference was observed between them.

TABLE 37: ORAL VOCABULARY BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	9.2	9.3
	Semiurban		10.0
	Urban	8.9	9.8
	Total	9.2	9.5
2	Rural	9.2	8.8
	Semiurban	9.5	9.1
	Urban	9.2	9.5
	Total	9.2	9.0
4	Rural	9.7	9.0
	Semiurban	9.8	9.3
	Urban	9.7	9.6
	Total	9.7	9.1

SCHOOL TYPE COMPARISON

Kyrgyz

When students' performance in oral vocabulary was compared by school type, no statistically significant differences among rural, semiurban, and urban schools were observed (Table 37). In general, students in all three grades irrespective of their school types obtained 8.9 or more out of 10 in Kyrgyz oral vocabulary knowledge. In Grade 1, students in rural and urban schools obtained average scores of 9.2 and 8.9. In Grade 2, students in rural, semiurban, and urban schools received average scores of 9.2, 9.5, and 9.2, respectively. In Grade 4, students secured average scores of 9.7 in rural, 9.8 in semiurban, and 9.7 in urban schools (Table 37).

Russian

In contrast, students in Russian oral vocabulary knowledge obtained average scores 8.8 to 10.0 out of possible score of 10. The students in Grade 2 in rural and Grade 1 in semiurban students obtained the lowest score of 8.8 and the highest score of 10.00, respectively. Students in remaining grade levels and school types obtained average score of 9.0 and above (Table 37). The differences among rural, semiurban, and urban schools were not statistically significant.

READING PASSAGE

The seventh section of EGRA was reading passage. The purpose of this section was to examine whether students in Grades 1, 2, and 4 were able to read aloud a passage with comprehension at their grade levels. This section includes one short paragraph (~25 words for Grade 1, ~40 words for Grade 2, and ~80 words for Grade 4; words are grade-appropriate familiar words) and was presented in the student booklets.

TABLE 38: READING PASSAGE BY GENDER

Grade	Gender	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1 and	End of Min. 1	End of Min. 2	Between Min. 1 and
1	Male	16.2	26.1	16.9	23.1	24.7	15.6
	Female	21.6	28.4	17.7	22.4	22.3	15.9
	Total	18.8	27.1	17.3	22.7	23.5	15.8

Grade	Gender	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1 and	End of Min. 1	End of Min. 2	Between Min. 1 and
2	Male	27.9	39.3	22.7	35.0	51.6	28.7
	Female	36.9	47.4	28.2	43.5	53.7	29.4
	Total	32.2	42.6	25.0	39.3	52.5	29.0
4	Male	60.3	93.5	47.6	63.7	104.8	52.3
	Female	76.3	109.1	56.6	73.5	118.3	60.2
	Total	67.9	100.0	51.1	68.5	111.1	56.0

Note. End of Min. 1 refers to number of letters students read correctly in 1 minute; if the student took less than 1 minute, then his or her score was estimated for the entire 1 minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to number of letters students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

GENDER COMPARISON

Kyrgyz

Because the reading passages comprised of grade-appropriate familiar words, a similar pattern of student performance was also observed in reading passage as in the familiar word identification section. In general, students in Grades 1, 2, and 4 read at a rate of 19, 32, and 68 words per minute, and 27, 43, and 100 words in 2 minutes, respectively (Table 38). About 20 percent at Grade 1, 30 percent at Grade 2, and 29 percent at Grade 4 students in Kyrgyz attempted to finish the entire reading passage section in less than 1 minute; a total of six Grade 1, 10 Grade 2, and two Grade 4 students obtained zero score. Like other reading fluency sections in EGRA, students who took more than 1 minute but less than or equal to 2 minutes to finish the entire reading passage section also read at a much faster rate in minute 2 than in minute 1. Students in Grade 1 ($27 - 17 = 10$ words in minute 1 vs. 17 words between minutes 1 and 2), Grade 2 ($43 - 25 = 18$ words in minute 1 vs. 25 words between minutes 1 and 2), and Grade 4 ($100 - 51 = 49$ words in minute 1 vs. 51 words between minutes 1 and 2) read faster in minute 2 than in minute 1, respectively. When we compared student performance in reading passage by gender, it was revealed that female students performed statistically significantly better than their counterparts in all three grade levels in Kyrgyz. Female and male students in Grades 1, 2, and 4 read 22 vs. 16 words, 37 vs. 28 words, and 76 vs. 60 words in 1 minute, and 28 vs. 26 words, 47 vs. 39 words, and 109 vs. 94 words in 2 minutes, respectively.

As reading passages comprised of familiar words from textbooks, a similar pattern was also observed for reading passage as it was revealed for familiar word identification. A total of six Grade 1, 10 Grade 2, and two Grade 4 students in Kyrgyz and two in Grades 1 and 2 and none Grade 4 students in Russian obtained a score of zero.

Russian

In contrast, students in Grades 1, 2, and 4 in the Russian language read 23, 39, and 69 words in 1 minute and 24, 53, and 111 words in 2 minutes, respectively (Table 38). A total of 42 percent at Grade 1, 34 percent at Grade 2, and 22 percent at Grade 4 students attempted to finish the entire reading passage section in less than 1 minute, but only two students in Grade 1, two in Grade 2, and none at Grade 4 obtained a score of zero. A similar pattern was also observed with student reading pace at the end of minute 1 and 2. Students tended to read faster in the second minute than in the first minute. When we compared student performance in reading passage by gender, it was revealed that female students performed statistically significantly better than their counterparts in Grades 2 and 4 for Russian. Female students read

at a rate of 44 words (as compared to 35 words for males) and 74 words (as compared to 64 words for males) in minute 1, and 54 words (as compared to 52 words for males) and 118 words (as compared to 105 words for males) in minute 2, respectively. Although male students (23 words per minute) in Grade 1 performed slightly better than female (22 words) students, the difference was not statistically significant.

TABLE 39: READING PASSAGE BY SCHOOL TYPE

Grade	Type	Kyrgyz			Russian		
		End of Min. 1	End of Min. 2	Between Min. 1 and 2	End of Min. 1	End of Min. 2	Between Min. 1 and 2
1	Rural	17.9	26.3	17.1	20.1	22.8	13.7
	Semiurba				21.8	23.0	12.1
	Urban	23.2	30.8	18.2	31.1	27.3	27.6
	Total	18.8	27.1	17.3	22.7	23.5	15.8
2	Rural	32.0	42.2	25.0	36.2	49.6	26.3
	Semiurba	37.1	50.8	30.2	38.0	59.1	30.4
	Urban	31.8	42.3	22.8	53.1	65.5	44.6
	Total	32.2	42.6	25.0	39.3	52.5	29.0
4	Rural	66.8	98.6	50.8	66.1	109.1	55.1
	Semiurba	77.4	112.4	55.8	63.3	100.8	48.6
	Urban	71.3	102.7	51.7	81.0	128.4	65.9
	Total	67.9	99.7	51.1	68.5	111.1	56.0

Note. End of Min. 1 refers to number of letters students read correctly in 1 minute; if the student took less than 1 minute, then his or her score was estimated for the entire 1 minute, and if the students took more than 1 minute, then his or her score at minute 1 was reported. End of Min. 2 refers to number of letters students (those who finished the entire letter naming section in more than 1 minute but less than or equal to 2 minutes) read correctly in 2 minutes; if the student took less than 2 minutes but more than 1 minute, then his or her score was estimated for the entire 2 minutes. Between Min. 1 and 2 refers to reading pace (of students who took more than 1 minute to finish the entire section) during the second minute (i.e., number of letters read correctly during the second minute).

SCHOOL TYPE COMPARISON

Kyrgyz

When students' reading passage in Kyrgyz and Russian were compared by school type (i.e., rural, semiurban, and urban), the same pattern observed for other sections of EGRA was also revealed for reading passage. In Kyrgyz, urban schools for Grades 1 and semiurban schools for 2 and 4 performed better than their peers in the other schools. Students in Grade 1 rural and urban schools read 18 and 23 words correctly in 1 minute and 26 and 31 words correctly in 2 minutes, respectively (Table 39). Whereas, students in Grade 2 rural, semiurban, and urban schools read at a rate of 32, 37, and 32 words in 1 minute and 42, 51, and 42 words in 2 minutes, respectively. For Grade 4, students in semiurban schools (77 words in 1 minute and 112 words in 2 minutes) outperformed students in rural (67 words in one minute and 99 words in two minutes) and urban (71 words at the end of minute 1 and 103 words at the end of minute 2) schools both in 1 minute and 2 minutes. The differences among the schools were found statistically significant.

Russian

On the other hand, in Russian, students in Grade 1 rural, semiurban and urban schools read at 20, 22, and 31 words per minute, students in Grade 2 rural, semiurban, and urban schools read at 36, 38, and 53 words per minute, and students in Grade 4 rural, semiurban, and urban schools read at 66, 63, and 81 words per minute (Table 39). The differences among them were

statistically significant. Again, the same pattern was observed for the reading pace for both languages in minute 1 versus minute 2; students tend to read faster in minute 2 than minute 1.

READING COMPREHENSION

The section following reading passage was reading comprehension section. The purpose of this section was to examine whether students in Grades 1, 2, and 4 were able to comprehend the passage they read. After the student reads the passage aloud, the administrator asked him or her three to five questions about the passage. In Kyrgyz, there were three questions for Grade 1, four questions for Grade 2, and five questions for Grade 4, related to their respective reading passages. In Russian, there were three questions for each of the Grades 1 and 2, and four questions for Grade 4, related to their respective reading passages.

TABLE 40: READING COMPREHENSION BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	1.3	0.7
	Female	1.4	0.9
	Total (out of possible score: Kyrgyz 3; Russian 3)	1.3	0.8
2	Male	2.0	1.1
	Female	2.3	1.1
	Total (out of possible score: Kyrgyz 4; Russian 3)	2.1	1.1
4	Male	3.3	2.3
	Female	3.6	2.6
	Total (out of possible score: Kyrgyz 5; Russian 4)	3.5	2.5

GENDER COMPARISON

Kyrgyz

Overall, students in Grades 1, 2, and 4 did not perform well in the reading comprehension section, in both Kyrgyz and Russian. In Kyrgyz, students in Grades 1, 2, and 4 obtained the average scores of 1.3 out of possible score of 3, 2.1 out of 4, and 3.5 out of 5, respectively (Table 40). About 30 percent of Grade 1, 16 percent Grade 2, and 3 percent Grade 4 students obtained a score of zero. Although both male and female students performed very similarly, the difference between them was statistically significant for Grades 2 and 4.

Russian

However, in Russian, students in Grades 1, 2, and 4 obtained the average scores of 0.8 out of possible score of 3, 1.1 out of 3, and 2.5 out of 4, respectively (Table 40). A total of 54 percent Grade 1, 48 percent Grade 2, and 8 percent Grade 4 students obtained zero score in Russian reading comprehension. When compared by gender, although female students performed relatively better than male students, the differences were only significant for Grade 4 students.

TABLE 41: READING COMPREHENSION BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	1.3	0.8
	Semiurban		1.1
	Urban	1.3	0.8
	Total (out of possible score: Kyrgyz 3; Russian 3)	1.3	0.8

Grade	Type	Kyrgyz	Russian
2	Rural	2.1	1.0
	Semiurban	2.5	1.2
	Urban	2.1	1.7
	Total (out of possible score: Kyrgyz 4; Russian 3)	2.1	1.1
4	Rural	3.4	2.4
	Semiurban	3.6	2.4
	Urban	3.6	2.9
	Total (out of possible score: Kyrgyz 5; Russian 4)	3.5	2.5

SCHOOL TYPE COMPARISON

Kyrgyz

When students' performance in reading comprehension was compared by school type, no statistical significant differences among rural, semiurban, and urban schools were observed (Table 41). In Kyrgyz, students irrespective of their school types obtained highest scores of 1.3 out of 3 in both rural and urban Grade 1, 2.5 out of 4 in semiurban Grade 2 (as compared to 2.1 for both rural and urban), and 3.6 out of 5 in semiurban and urban Grade 4 (as compared to 3.4 for rural).

Students performed relatively better in listening comprehension than in reading comprehension. Only 1 percent Grade 1, 2 percent Grade 2, and 3 percent Grade 4 students in Kyrgyz and 15 percent Grade 1, 10 percent Grade 2, and 1 percent Grade 4 students in Russian obtained a score of zero.

Russian

Students of Russian, regardless of their school types, obtained the highest scores of 1.1 out of 3 in semiurban Grade 1 (as compared to 0.8 for both rural and urban), 1.7 out of 3 in urban Grade 2 (as compared to 1.0 for rural and 1.2 for semiurban), and 2.9 out of 4 in urban Grade 4 (as compared to 2.4 for both rural and semiurban). The differences among rural, semiurban, and urban schools were not found statistically significant in either Kyrgyz or Russian (Table 41).

LISTENING COMPREHENSION

The eighth section of EGRA was listening comprehension. The purpose of this section was to examine whether students in Grades 1, 2, and 4 were able to comprehend the passage they just heard. This section included one short paragraph (~25 words for Grade 1, ~40 words for Grade 2, and ~80 words for Grade 4). This was a listening exercise. The test administrator read aloud a passage to the student only once, slowly (about one word per second) and then asked them three to five oral comprehension questions related to the passage. In Kyrgyz, there were three questions for Grade 1, four questions for Grade 2, and five questions for Grade 4 related to their respective listening passages. In Russian, there were four questions for all three Grades of 1, 2, and 4 related to their respective listening passages.

Students have difficulty in comprehending the text that they read. Higher percentage of students obtained a score of zero in reading comprehension. About 30 percent Grade 1, 16 percent Grade 2, and 3 percent Grade 4 students in Kyrgyz and 54 percent Grade 1, 48 percent Grade 2, and 8 percent Grade 4 students in Russian obtained a score of zero.

TABLE 42: LISTENING COMPREHENSION BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	2.6	2.0
	Female	2.7	2.0
	Total (out of possible score: Kyrgyz 3; Russian 4)	2.7	2.0
2	Male	2.9	2.5
	Female	3.1	2.7
	Total (out of possible score: Kyrgyz 4; Russian 4)	3.0	2.6
4	Male	3.4	3.5
	Female	3.5	3.5
	Total (out of possible score: Kyrgyz 5; Russian 4)	3.5	3.5

GENDER COMPARISON

Kyrgyz

Overall, students performed better in listening comprehension than in reading comprehension section. In Kyrgyz, students in Grades 1, 2, and 4 obtained the average scores of 2.7 (male 2.6; female 2.7) out of a possible score of 3, 3.0 (male 2.9; female 3.1) out of 4, and 3.5 (male 3.4; female 3.5) out of 5, respectively (Table 42). About 1 percent of Grade 1, 2 percent Grade 2, and 3 percent Grade 4 students obtained zero score in Kyrgyz listening comprehension. When performance difference between male and female students was tested, the difference was statistical significant for only Grade 2 students.

Russian

In Russian, students in Grades 1, 2, and 4 obtained the average scores of 2 (both male and female 2.0) out of a possible score of 4, 2.6 (male 2.5; female 2.7) out of 4, and 3.5 (both male and female 3.5) out of 4. A total of 15 percent of Grade 1, 10 percent of Grade 2, and 1 percent of Grade 4 students obtained zero score in Russian listening comprehension (Table 42). Female students at Grade 2 performed statistically significantly better than male students.

SCHOOL TYPE COMPARISON

Kyrgyz

When students' performance in listening comprehension was compared by school type, no statistical significant differences among rural, semiurban, and urban schools were observed (Table 43). In Kyrgyz, students in Grades 1, 2, and 4 obtained highest scores of 2.7 out of 3 in rural schools (as compared to 2.4 in urban), 3.1 out of 4 in semiurban schools (as compared to 3.0 in rural and 2.9 in urban), and 3.6 out of 5 in semiurban schools (as compared to 3.5 both in rural and urban), respectively.

TABLE 43: LISTENING COMPREHENSION BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	2.7	1.9
	Semiurban		2.5
	Urban	2.4	2.1
	Total (out of possible score: Kyrgyz 3; Russian 4)	2.7	2.0
2	Rural	3.0	2.4
	Semiurban	3.1	3.0
	Urban	2.9	3.1
	Total (out of possible score: Kyrgyz 4; Russian 4)	3.0	2.6

Grade	Type	Kyrgyz	Russian
4	Rural	3.5	3.4
	Semiurban	3.5	3.7
	Urban	3.6	3.8
	Total (out of possible score: Kyrgyz 5; Russian 4)	3.5	3.5

Russian

In Russian, students in Grades 1, 2, and 4 at rural, semiurban, and urban schools obtained average scores of 1.9, 2.5, and 2.1; 2.4, 3.0, and 3.1; and 3.4, 3.7, and 3.8, respectively (Table 43). Within each grade level, the differences among school type were not found statistically significant.

DICTATION

The ninth section of EGRA was dictation. The purpose of this section was to examine whether students in Grades 1, 2, and 4 were able to write a complete sentence correctly using appropriate formation, size, signs, symbols, and spacing. The dictation sentence for Grades 1, 2, and 4 consisted of four to five words, five to six words, and eight to 10 words, respectively. In Kyrgyz, the maximum possible scores for Grades 1, 2, and 4 were 14, 18, and 22, respectively. In Russian, the maximum possible scores were 16 for Grade 1, 18 for Grade 2, and 24 for Grade 4.

Students performed moderately in writing. About 8 percent Grade 1, 5 percent Grade 2, and 1 percent Grade 4 students in Kyrgyz and 6 percent Grade 1, 2 percent Grade 2, and none Grade 4 students in Russian obtained a score of zero.

TABLE 44: DICTATION BY GENDER

Grade	Gender	Kyrgyz	Russian
1	Male	8.6	10.9
	Female	9.7	11.7
	Total (out of possible score: Kyrgyz 14; Russian 16)	9.1	11.3
2	Male	8.6	12.1
	Female	10.4	13.5
	Total (out of possible score: Kyrgyz 18; Russian 18)	9.5	12.8
4	Male	16.6	19.7
	Female	18.6	20.9
	Total (out of possible score: Kyrgyz 22; Russian 24)	17.5	20.3

GENDER COMPARISON

Kyrgyz

Overall, students performed moderately in dictation. Students at Grades 1, 2, and 4 obtained the average scores of 9.1 (65 percent) out of a possible score of 14, 9.5 (53 percent) out of 18, and 17.5 (80 percent) out of 22, respectively (Table 44). About 8 percent Grade 1, 5 percent Grade 2, and 1 percent Grade 4 students obtained a score of zero in dictation. Although female students performed relatively better than their counterparts, the difference was only significant for Grades 2 and 4. The female students in obtained the average scores of 9.7 in Grade 1 (as compared to 8.6 for males), 10.4 in Grade 2 (as compared to 8.6 for males), and 18.6 in Grade 4 (as compared to 16.6 for males).

Russian

In contrast, students' performance in Russian was relatively better than that of students in Kyrgyz. Students at Grades 1, 2, and 4 obtained the average scores of 11.3 (71 percent) out of a possible score of 16, 12.8 (71 percent) out of 18, and 20.3 (85 percent) out of 24. Only 6 percent of Grade 1, 2 percent of Grade 2, and 0 percent of Grade 4 students obtained a score of zero in writing. When compared by gender, a similar pattern was also observed in Russian as it was observed for Kyrgyz. Statistical significant differences were observed between male and female students at Grades 2 and 4. The male and female students in Grades 1, 2, and 4 obtained average scores of 10.9 for male and 11.7 for female, 12.1 for male and 13.5 for female, and 19.7 for male and 20.9 for female, respectively (Table 44).

TABLE 45: DICTATION BY SCHOOL TYPE

Grade	Type	Kyrgyz	Russian
1	Rural	9.1	10.7
	Semiurban		12.4
	Urban	9.4	12.9
	Total (out of possible score: Kyrgyz 14; Russian 16)	9.1	11.3
2	Rural	9.4	12.4
	Semiurban	10.0	13.7
	Urban	10.2	14.2
	Total (out of possible score: Kyrgyz 18; Russian 18)	9.5	12.8
4	Rural	17.4	20.1
	Semiurban	18.1	19.8
	Urban	18.4	21.1
	Total (out of possible score: Kyrgyz 22; Russian 24)	17.5	20.3

SCHOOL TYPE COMPARISON

Kyrgyz

Although urban schools performed relatively better than their peers in rural and semiurban schools across all three grade levels, no meaningful differences among them were observed in writing. Students in Grades 1, 2, and 4 in urban schools obtained the average scores of 9.4 out of 14 (as compared to 9.1 in rural), 10.2 out of 18 (as compared to 9.4 in rural and 10.0 in semiurban), and 18.4 out of 22 (as compared to 17.4 in rural and 18.1 in semiurban), respectively (Table 45).

Russian

For Russian, there were noticeable differences in students' performance in writing across rural, semiurban, and urban schools, but only the difference between Grade 1 rural and urban students was found statistically significant. In Grade 1, students in rural, semiurban, and urban schools obtained the average scores of 10.7, 12.4, and 12.9 out of a possible score of 16, respectively. While Grades 2 and 4 students obtained the average scores of 12.4, 13.7, and 14.2 out of 18 and 20.1, 19.8, and 21.1 out of 24, respectively (Table 45).

VI. RECOMMENDATIONS

The MOES efforts to improve the quality of education in Kyrgyzstan and their attention to literacy improvement are significant. The baseline data collection and analysis efforts in both Kyrgyz and Russian EGRA are an essential first step toward ensuring that the strengths, weaknesses, and challenges of early grade reading are documented and understood so that appropriate interventions can be determined to efficiently and effectively improve student learning outcomes in literacy. The results of the Kyrgyz and Russian EGRA (USAID, 2012) showed that almost half of the Grades 2, 3, and 4 students were not able to read at national standards for reading fluency and had serious difficulty in comprehending texts, particularly with inferential questions. It is no surprise that similar results have been found in the baseline of USAID/QRP.

Research shows that literacy skills in one's first language (such as visual awareness, phonemic awareness, and reading speed) support reading in any other language. The cognitive and linguistic skills attained while learning to read in the first language need not be relearned in the second language (however, the orthographic-specific rules of the second or third language may need specific instruction). This suggests that the MOES efforts to improve Kyrgyz literacy will also support improvements in students' Russian language literacy. Further recommendations to improve literacy in early grades follow below.

READING AND LITERACY TEACHING METHODS AND STRATEGIES: It is clear from the results that students are not learning the skills necessary to read or comprehend what they hear in Kyrgyz and Russian languages. Though this assessment was not designed to determine the effect IST had on student achievement, there is ample research that demonstrates teacher subject knowledge and participation in IST has a positive impact on student performance. Therefore, teachers at both pre-service and in-service levels need to be introduced to proven research-based methods and strategies for teaching students the languages. The USAID/QRP has assisted the MOES in developing and implementing IST training package for teaching students reading; the training is currently underway. Research also shows that teachers need long-term guidance and support in order to sufficiently understand and utilize information received in in-service training programs. Additional IST and CPD activities should take place to ensure teachers continue to develop their skills in utilizing these methodologies in the classroom on a daily basis. Furthermore, these strategies and methods should be incorporated into the pre-service curriculum of every TTI so that all graduating teachers are equipped with the methodologies they will need to be successful in teaching literacy skills to their students.

READING MATERIALS: It was revealed from the baseline EGRA that students have difficulty with reading fluency and comprehension. That suggests that students do not have adequate opportunity to practice reading due to a lack of learning materials. It was also supported by the Asian Development Bank (2008) study that schools practically do not have any teaching and learning materials. Significant efforts need to be made to procure, develop, and distribute quality reading materials and teaching aids so that students and teachers have easy access to both the materials to increase teaching and learning literacy outcomes. USAID/QRP has a component regarding the "development and procurement of low cost materials" embedded, to support schools with developing low-cost reading materials.

STANDARDS-BASED EGRAS: Kyrgyzstan has made noticeable progress toward a standards-based education system. In 2005, the KAE and the MOES approved 25 new State Educational Standards that strongly aligned Kyrgyz education with international practices and redrew curriculum sequences and content in preparation of the 12-year school (OECD, 2010). Moreover, USAID/QRP developed national reading standards and aligned the IST training

package for primary grades in 2014, and it was later approved by KAE. Additionally, the project developed EGRAs aligned with reading standards and performance benchmarks for measuring student progress against those benchmarks. Therefore, it is expected that future EGRAs must employ a standards-based approach and must make strong connections with the baseline EGRA when constructing future EGRA tests, analyzing the data, and reporting the progress through a psychometric procedure called *test score equating*. The test equating procedure would help by bringing both baseline and follow-up tests on the same measurement scale and help answering the question, “If Student X is taking the test in 2015 (follow-up), what would his or her score have been in 2014 (baseline) if he or she had taken the test in 2014?” If the baseline and future EGRA are not linked, then the improvement or decline in student performance would be due to the difference in difficulty level of the tests. A standards-based approach ensures that the results of the assessment provide relevant data on student performance according to the curriculum standards established by the MOES.

FORMATIVE ASSESSMENT LITERACY TOOLS: Summative assessments such as this EGRA are important for providing information on a systemic level. However, teachers need to be able to assess student learning on a daily basis and must be able to adapt their lesson plans and methodologies according to what provides the greatest results for their students. Simple formative assessment tools for literacy learning should be developed and incorporated into pre-service, in-service, and CPD training programs so teachers can better understand student learning in the classroom and adjust their lesson planning accordingly.

VII. REFERENCES

- Asian Development Bank. (2008). *Report of the baseline and needs assessment for preparing the second community-based early childhood development project*.
- Baker, C. (2001). *Foundations of bilingual education and bilingualism*. (3rd ed.). Clevedon, UK: Multilingual Matters.
- Beck, M. (2003). *Standard setting: If it is science, it's sociology and linguistics, not psychometrics*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- Cizek, G., & Bunch, M. (2007). *Standard setting: A guide to establishing and evaluating performance standards on tests*. Thousand Oaks, CA: Sage.
- Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In California State Department of Education (Ed.), *Schooling and language minority students: A theoretical framework* (pp. 3–49). Los Angeles, CA: Evaluation, Dissemination and Assessment Center, California State University.
- Hambleton, R. K., & van der Linden, W. J. (1982). Advances in item response theory and applications: An introduction. *Applied Psychological Measurement*, 6, 373–378.
- Hamilton, L. S., Stecher, B. M., & Yuan, K. (2008). *Standards-based reform in the United States: History, research, and future directions*. Los Angeles, CA: RAND Corporation.
- Linn, R. L. (2001). *The design and evaluation of educational assessment and accountability systems* (CSE Technical Report No. 539). Los Angeles, CA: National Center for Research on Evaluation, Standards, and Student Testing.
- Linn, R. L., & Herman, J. L. (1997a). *A policymaker's guide to standards-led assessment*. Denver, CO: The Education Commission of the States.
- Linn, R. L., & Herman, J. L. (1997b). *Standards-led assessment: Technical and policy issues in measuring school and student progress* (CSE Technical Report No. 426). Los Angeles, CA: National Center for Research on Evaluation, Standards, and Student Testing.
- Livingston, S. A., & Zieky, M. J. (1982). *Passing scores: A manual for setting standards of performance on educational occupational tests*. Princeton, NJ: Educational Testing Service.
- Loomis, S. C., & Bourque, M. L. (2001). From tradition to innovation: Standard setting on the National Assessment of Educational Progress. In G. J. Cizek (Ed.), *Setting performance standards: Concepts, methods, and perspectives* (pp. 175–217). Mahwah, NJ: Erlbaum.
- Lord, F. M. (1950). *Notes on comparable scales for test scores* (ETS Research Bulletin No. RB-50-48). Princeton, NJ: Educational Testing Service.
- Perie, M. (2008). A guide to understanding and developing performance-level descriptors. *Educational Measurement: Issues and Practices* 27(4), 15–29.
- Petersen, N. S., Kolen, M. J., & Hoover, H. D. (1989). Scaling, norming and equating. In R. L. Linn (Ed.), *Educational measurement* (3rd ed.; pp. 221–262). New York, NY: Macmillan.

- Plake, B. S., & Ferdous, A. A. (2005). *Setting multiple performance standards using the yes/no method: An alternative item mapping method*. Paper presented to the meeting of the National Council on Measurement in Education, Montreal, Canada.
- Rasch, G. (1980). *Probabilistic models for some intelligence and attainment tests*. Chicago, IL: The University of Chicago Press.
- The Organization for Economic Cooperation and Development. (2010). *Kyrgyz Republic 2010: Lessons from PISA, OECD Publishing*. Retrieved from http://www.keepeek.com/Digital-Asset-Management/oecd/education/reviews-of-national-policies-for-education-kyrgyz-republic-2010_9789264088757-en#page1
- United Nations Children's Fund (UNICEF). (2005). *Monitoring learning achievement: Nationwide study of the quality of education in primary schools*.
- United States Agency for International Development. (2012). *Review of early grade reading: Teaching and skills*. The Kyrgyz Republic and Tajikistan.

U.S. Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

www.usaid.gov



USAID | **KYRGYZ REPUBLIC**
FROM THE AMERICAN PEOPLE

USAID/Quality Reading Project (QRP): Kyrgyzstan

Early Grade Reading Assessment (EGRA) Baseline Data
Analytic Report, ADDENDUM



January 2016

A partnership with
American Institutes for Research and Save the Children International

Contract No.: AID-176-C-13-00001-00

USAID/Quality Reading Project (QRP): Kyrgyzstan

Early Grade Reading Assessment (EGRA) Baseline Data Analytic Report, ADDENDUM

Submitted by:
American Institutes for Research

30 January 2016

This baseline study of early grade reading assessment is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents are the sole responsibility of the American Institutes for Research and Save the Children International and do not necessarily reflect the views of USAID or the United States Government.

LIST OF TABLES

TABLE 1: 2014 EGRA SUBTEST SUMMARY	2
TABLE 2: PERCENTAGE MEETING READING FLUENCY STANDARD BY LANGUAGE AND GRADE.....	3
TABLE 3: PERCENTAGE MEETING READING COMPREHENSION STANDARD BY LANGUAGE AND GRADE	3
TABLE 4: LETTER NAME RECOGNITION RESULTS BY GENDER	3
TABLE 5: LETTER NAME RECOGNITION RESULTS BY SCHOOL LOCATION	3
TABLE 6: INITIAL LETTER SOUND RESULTS BY GENDER	4
TABLE 7: INITIAL LETTER SOUND RESULTS BY SCHOOL LOCATION.....	4
TABLE 8: LETTER SOUND RESULTS BY GENDER.....	4
TABLE 9: LETTER SOUND RESULTS BY SCHOOL LOCATION	5
TABLE 10: FAMILIAR WORD RESULTS BY GENDER AND SCHOOL LOCATION	5
TABLE 11: DIFFICULT WORD RESULTS BY GENDER AND SCHOOL LOCATION.....	6
TABLE 12: ORAL VOCABULARY RESULTS BY GENDER AND SCHOOL LOCATION	6
TABLE 13: READING PASSAGE AND READING COMPREHENSION BY GENDER	7
TABLE 14: READING PASSAGE AND READING COMPREHENSION BY SCHOOL LOCATION	7
TABLE 15: LISTENING COMPREHENSION AND DICTATION BY GENDER	8
TABLE 16: LISTENING COMPREHENSION AND DICTATION BY SCHOOL LOCATION	8
TABLE 17: KYRGYZ LANGUAGE GENDER COMPARISON.....	9
TABLE 18: RUSSIAN LANGUAGE GENDER COMPARISON	9
TABLE 19: KYRGYZ LANGUAGE SCHOOL LOCATION COMPARISON	10
TABLE 20: RUSSIAN LANGUAGE SCHOOL LOCATION COMPARISON	10

INTRODUCTION

This document is an addendum to the USAID/Quality Reading Project (QRP): Kyrgyzstan Early Grade Reading Assessment (EGRA) Baseline Data Analytic Report originally submitted by American Institutes for Research to USAID in the fall of 2014. The purpose of this addendum is to present 2014 data in the format used by AIR for the 2015 EGRA Midterm Data Analytic Report for Kyrgyzstan, submitted in October 2015.

This document provides EGRA results for Grades 1, 2, and 4 (a) for individual subtasks by grade and language (Russian and Kyrgyz), also broken out by geography and gender; and (b) in two tables that report the percentage of students who met or exceeded national benchmarks for reading fluency and reading comprehension in Grades 2 and 4.

AIR changed its reporting format for several reasons. In preparing the analysis of the 2015 data collection, the AIR QRP team determined that the previous composite benchmark definition was not the best approach to scoring EGRA results. The 2014 approach—using a conjunctive scoring method—was inconsistent with what USAID is accustomed to receiving and thus was not comparable to previous EGRA Kyrgyz or Russian language results in Kyrgyzstan or reporting from other countries. A simplified reporting structure also has the benefit of a more transparent representation of scores for the Kyrgyz Ministry of Education.

In 2015, we decided to revise our QRP methodology to use a simpler, more transparent approach to EGRA and standards. The 2015 presentation is a cleaner representation of what we can infer with confidence from the EGRA data; this is the approach used in this addendum.

TABLE 1:2014 EGRA SUBTEST SUMMARY

2014 Baseline Subtasks		
Subtask (Grade)	Reading Skills	Pupils were asked to:
1. Letter Name Recognition (1,2)	Letter name identification	<i>Identify</i> correctly and <i>read</i> aloud 64/69 names of the letters of the Kyrgyz/ Russian alphabet in lower- and uppercase in a 2-minute period (TIMED).
2. Letter Sound (1,2,4)	Phonemic awareness, letter–sound correspondence	<i>Sound out</i> 10 commonly used letters, randomly arranged, repeating after administrator.
3. Initial Letter Sound (1,2)	Phonemic awareness	<i>Sound out</i> the initial letter of 10 commonly used words that are read aloud to the student, randomly arranged.
4. Familiar Word Recognition (1,2,4)	Word recognition/decoding	<i>Read aloud</i> 25 (Grade 1) or 40 (Grades 2 and 4) familiar one- and two-syllable real words in a 2-minute period (TIMED).
5. Difficult Word Recognition* (1,2,4) *Note: Was changed to nonsense words in 2015	Letter–sound correspondence, decoding	<i>Read aloud</i> 25 (Grade 1) or 40 (Grades 2 and 4) one- and two-syllable difficult words in a 2-minute period (TIMED).
6. Oral Vocabulary (1,2,4)	Receptive oral vocabulary knowledge	<i>Identify</i> 10 objects in pictures after listening to a list of objects read by the administrator using the validated PPVT-R format.
6a. Passage Reading (1,2,4)	Oral reading fluency	<i>Demonstrate</i> oral reading of one short passage (25-89 words, depending on language and grade) in a 2-minute period (TIMED).
6b. Reading Comprehension (1,2,4)	Reading comprehension	<i>Demonstrate</i> reading comprehension by answering 3-5 oral questions (depending on language and grade) from the administrator about the reading passage just read aloud.
7. Listening Comprehension (1,2,4)	Oral language comprehension, spelling, writing skills, working memory	<i>Demonstrate</i> listening comprehension by answering 3-5 questions (depending on language and grade) based on a short paragraph read by the administrator.
8. Dictation (2,4)	Oral language comprehension, spelling, writing skills, working memory	<i>Listen</i> to a sentence and <i>reproduce</i> it correctly in written form.

TABLE 2: PERCENTAGE MEETING READING FLUENCY STANDARD BY LANGUAGE AND GRADE

Language Skill	Benchmark	Kyrgyz	Russian
Reading Fluency	Standard or Above	2014	2014
Grade 2	40 words or above	31.20%	48.70%
Grade 4	80 words or above	35.30%	30.60%

TABLE 3: PERCENTAGE MEETING READING COMPREHENSION STANDARD BY LANGUAGE AND GRADE

Skill	Benchmark	Kyrgyz	Russian
Reading Comprehension		2014	2014
Grade 2	K: 3 of 4 correct R: 4 of 5 correct	42.80%	
Grade 4	R: 3 of 4 correct K: 4 of 5 correct	55.80%	50.50%

Note: Because the 2014 Grade 2 Russian subtask contained only three questions, results were not used for benchmarking purposes.

TABLE 4: LETTER NAME RECOGNITION RESULTS BY GENDER

Subtask	Kyrgyz Language					Russian Language				
	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Letter Name Recognition Grade 1	57.69 (19.69) n = 324	56.44 (19.78) n = 166	59.35 (19.50) n = 158	2.91	0.15	43.75 (17.03) n = 249	45.21 (17.81) n = 121	42.35 (16.20) n = 128	2.86	0.17
Letter Name Recognition Grade 2	60.44 20.27 n = 1,627	57.46 (19.29) n = 852	63.89 (20.82) n = 775	6.44**	0.32	57.50 (20.87) n = 602	56.13 (20.13) n = 303	58.79 (21.49) n = 299	2.66	0.13

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 5: LETTER NAME RECOGNITION RESULTS BY SCHOOL LOCATION

Subtask	Kyrgyz Language				Russian Language			
	Urban	Rural	Diff.	Cohen's d	Urban	Rural	Diff.	Cohen's d
Letter Name Recognition Grade 1	60.22 (19.29) n = 52	57.04 (19.65) n = 272	4.00	0.20	45.04 (16.96) n = 72	41.36 (16.43) n = 177	6.07	0.36
Letter Name Recognition Grade 2	56.92 (18.55) n = 270	61.34 (20.59) n = 1,357	4.42	0.22	56.77 (17.62) n = 159	58.04 (22.97) n = 443	1.27	0.06

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 6: INITIAL LETTER SOUND RESULTS BY GENDER

Subtask	Kyrgyz Language					Russian Language				
	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Initial Letter Sound Grade 1	92.46 (13.92) n = 324	90.86 (14.00) n = 166	94.59 (13.57) n = 158	3.73	0.27	90.59 (18.27) n = 249	92.24 (16.84) n = 121	89.01 (19.49) n = 128	3.23**	0.18
Initial Letter Sound Grade 2	90.07 (12.50) n = 1,627	89.50 (13.48) n = 852	90.74 (11.25) n = 775	1.24	0.10	90.21 (15.43) n = 602	89.13 (17.15) n = 303	91.23 (13.56) n = 299	2.10	0.14

Note: Standard deviation appears in parentheses.

* Significant at the .05 level

** Significant at the .01 level

TABLE 7: INITIAL LETTER SOUND RESULTS BY SCHOOL LOCATION

Subtask	Kyrgyz Language				Russian Language			
	Urban	Rural	Diff.	Cohen's d	Urban	Rural	Diff.	Cohen's d
Initial Letter Sound Grade 1	95.38 (10.38) n = 52	92.33 (13.98) n = 272	0.76	0.73	92.92 (13.88) n = 72	88.82 (21.12) n = 177	4.50	5.75
Initial Letter Sound Grade 2	89.55 (11.96) n = 270	90.20 (12.64) n = 1,357	0.65	0.66	91.42 (13.75) n = 159	89.33 (16.52) n = 443	2.10	2.42

Note: Standard deviation appears in parentheses.

* Significant at the .05 level

** Significant at the .01 level

TABLE 8: LETTER SOUND RESULTS BY GENDER

Subtask	Kyrgyz Language					Russian Language				
	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Letter Sound Grade 1	96.74 (8.55) n = 324	95.41 (10.25) n = 166	98.52 (5.04) n = 158	3.11**	0.36	89.40 (15.60) n = 249	87.09 (18.17) n = 121	91.63 (12.31) n = 128	4.54**	0.29
Letter Sound Grade 2	94.53 (12.26) n = 1,627	94.26 (12.20) n = 852	94.85 (12.32) n = 775	0.58	0.05	90.68 (14.38) n = 602	90.21 (15.12) n = 303	91.12 (13.66) n = 299	0.91	0.06

Note: Standard deviation appears in parentheses.

* Significant at the .05 level

** Significant at the .01 level

TABLE 9: LETTER SOUND RESULTS BY SCHOOL LOCATION

Subtask	Kyrgyz Language				Russian Language			
	Urban	Rural	Diff.	Cohen's d	Urban	Rural	Diff.	Cohen's d
Letter Sound Grade 1	96.15 (7.18) n = 52	96.98 (8.80) n = 272	1.44	0.17	93.19 (10.32) n = 72	87.79 (17.77) n = 177	4.08	0.26
Letter Sound Grade 2	94.39 (10.47) n = 270	94.57 (12.67) n = 1 357	0.18	0.02	90.23 (13.46) n = 159	91.00 (15.03) n = 443	0.77	0.05

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 10: FAMILIAR WORD RESULTS BY GENDER AND SCHOOL LOCATION

Subtask	Kyrgyz Language					Russian Language				
	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Grade 1 Familiar Word	30.70 (18.14) n = 324	28.12 (15.71) n = 166	34.12 (20.50) n = 158	6.00*	0.07	27.38 (14.31) n = 249	26.70 (14.37) n = 121	28.03 (14.28) n = 128	1.33	0.09
Grade 2 Familiar Word	50.16 (26.99) n=1,627	45.21 (26.02) n = 852	55.86 (26.97) n = 775	10.65**	0.40	49.15 (21.38) n = 602	45.11 (20.01) n = 303	52.96 (21.95) n = 299	7.85**	0.37
Grade 4 Familiar Word	71.39 (29.34) n = 1,691	66.19 (29.90) n = 898	77.37 (27.52) n = 793	11.19**	0.38	65.68 (23.20) n = 577	62.58 (22.64) n = 295	68.86 (23.38) n = 282	6.28	0.27
School Location	Total	Urban	Rural	Diff.	Cohen's d	Total	Urban	Rural	Diff.	Cohen's d
Grade 1 Familiar Word	30.70 (18.14) n = 324	36.72 (20.62) n = 52	28.91 (17.17) n = 272	10.91**	0.60	27.38 (14.31) n = 249	27.84 (14.45) n = 72	26.03 (14.23) n = 177	3.42	0.24
Grade 2 Familiar Word	50.16 (26.99) n = 1,627	54.31 (27.52) n = 270	49.11 (26.77) n = 1,357	5.19	0.19	49.15 (21.38) n = 602	51.13 (18.01) n = 159	47.71 (23.47) n = 443	3.42	0.16
Grade 4 Familiar Word	71.39 (29.34) n = 1,691	76.27 (28.75) n = 274	70.16 (29.38) n = 1,417	6.11*	0.21	65.68 (23.20) n = 577	66.45 (23.06) n = 164	65.05 (23.34) n = 413	1.40	0.06

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 11: DIFFICULT WORD RESULTS BY GENDER AND SCHOOL LOCATION

Subtask	Kyrgyz Language					Russian Language					
	Gender	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Grade 1 Difficult Words per Minute		15.08 (8.08) n = 324	14.34 (7.47) n = 166	16.05 (8.77) n = 158	1.72	0.21	18.04 (9.14) n = 249	17.84 (9.07) n = 121	18.23 (9.23) n = 128	0.39	0.04
Grade 2 Difficult Words per Minute		24.19 (14.09) n = 1,627	21.67 (13.76) n = 852	27.08 (13.92) n = 775	5.40**	0.38	26.81 (11.17) n = 602	24.55 (10.02) n = 303	28.93 (11.78) n = 299	4.38**	0.39
Grade 4 Difficult Words per Minute		31.27 (15.83) n = 1,691	27.81 (15.15) n = 898	35.23 (15.67) n = 793	7.42**	0.47	38.72 (15.42) n = 577	35.35 (13.90) n = 295	42.17 (16.15) n = 282	6.83**	0.44
School Location	Total	Urban	Rural	Diff.	Cohen's d	Total	Urban	Rural	Diff.	Cohen's d	
Grade 1 Difficult Words per Minute		15.08 (8.08) n = 324	16.25 (8.72) n = 52	14.70 (7.91) n = 272	2.28*	0.28	18.04 (9.14) n = 249	19.29 (8.78) n = 72	16.38 (9.48) n = 177	4.19**	0.46
Grade 2 Difficult Words per Minute		24.19 (14.09) n = 1,627	25.46 (13.15) n = 270	23.86 (14.31) n = 1,357	1.60	0.11	26.81 (11.17) n = 602	28.74 (10.49) n = 159	25.39 (11.46) n = 443	3.36	0.30
Grade 4 Difficult Words per Minute		31.27 (15.83) n = 1,691	34.13 (16.49) n = 274	30.54 (15.58) n = 1,417	3.59*	0.23	38.72 (15.42) n = 577	39.58 (16.37) n = 164	38.01 (14.60) n = 413	1.57	0.10

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 12: ORAL VOCABULARY RESULTS BY GENDER AND SCHOOL LOCATION

Subtask	Kyrgyz Language					Russian Language					
	Gender	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Grade 1 Oral Vocabulary		92.57 (9.09) n = 324	93.69 (8.25) n = 166	91.07 (9.94) n = 158	2.63	0.29	94.63 (16.04) n = 249	91.89 (21.29) n = 121	97.28 (7.50) n = 128	5.38	0.34
Grade 2 Oral Vocabulary		92.00 (10.90) n = 1,627	91.22 (11.37) n = 852	92.90 (10.27) n = 775	1.68**	0.15	90.56 (13.38) n = 602	88.89 (14.21) n = 303	92.14 (12.37) n = 299	3.26*	0.24
Grade 4 Oral Vocabulary		97.13 (5.84) n = 1,691	97.13 (5.90) n = 898	97.13 (5.77) n = 793	0.01	0.00	92.81 (9.60) n = 577	92.19 (9.88) n = 295	93.45 (9.27) n = 282	1.26	0.13
School Location	Total	Urban	Rural	Diff.	Cohen's d	Total	Urban	Rural	Diff.	Cohen's d	
Grade 1 Oral Vocabulary		92.57 (9.09) n = 324	88.85 (11.66) n = 52	93.42 (8.82) n = 272	5.22*	0.57	94.63 (16.04) n = 249	98.33 (3.75) n = 72	92.39 (20.08) n = 177	5.67	0.35
Grade 2 Oral Vocabulary		92.00 (10.90) n = 1,627	92.28 (9.28) n = 270	91.93 (11.28) n = 1,357	0.36	0.03	90.56 (13.38) n = 602	92.12 (11.81) n = 159	89.42 (14.33) n = 443	2.70	0.20
Grade 4 Oral Vocabulary		97.13 (5.84) n = 1,691	96.97 (5.65) n = 274	97.17 (5.88) n = 1,417	0.20	0.03	92.81 (9.60) n = 577	94.30 (7.46) n = 164	91.59 (10.91) n = 413	2.70	0.28

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 13: READING PASSAGE AND READING COMPREHENSION BY GENDER

Subtask	Kyrgyz Language					Russian Language				
	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Grade 1 Reading Passage	19.72 (10.97) n = 324	18.19 (9.51) n = 166	21.76 (12.39) n = 158	3.57**	0.33	22.48 (12.46) n = 249	20.99 (10.59) n = 121	23.92 (13.92) n = 128	2.93	0.24
Grade 2 Reading Passage	32.21 (18.14) n = 1,627	28.83 (17.83) n = 852	36.09 (17.73) n = 775	7.26**	0.40	40.29 (19.20) n = 602	37.31 (18.30) n = 303	43.10 (19.62) n = 299	5.79**	0.30
Grade 4 Reading Passage	68.44 (28.89) n = 1,691	60.33 (28.03) n = 898	77.77 (26.99) n = 793	17.45**	0.60	68.41 (25.35) n = 577	63.15 (24.64) n = 295	73.82 (24.98) n = 282	10.67**	0.42
Grade 1 Reading Passage Comprehension	45.23 (34.27) n = 324	45.51 (33.26) n = 166	44.85 (35.70) n = 158	0.66	0.02	29.07 (33.79) n = 249	19.85 (29.26) n = 121	37.96 (35.55) n = 128	18.11**	0.54
Grade 2 Reading Passage Comprehension	53.42 (32.94) n = 1,627	50.15 (33.42) n = 852	57.19 (31.98) n = 775	7.05**	0.21	39.69 (41.72) n = 602	40.76 (43.62) n = 303	38.68 (39.89) n = 299	2.08	0.05
Grade 4 Reading Passage Comprehension	69.35 (28.44) n = 1,691	66.27 (29.39) n = 898	72.88 (26.90) n = 793	6.61**	0.23	61.74 (30.48) n = 577	58.79 (31.86) n = 295	64.76 (28.74) n = 282	5.97*	0.20

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 14: READING PASSAGE AND READING COMPREHENSION BY SCHOOL LOCATION

Subtask	Kyrgyz Language					Russian Language				
	Total	Urban	Rural	Diff.	Cohen's d	Total	Urban	Rural	Diff.	Cohen's d
Grade 1 Reading Passage	19.72 (10.97) n = 324	22.10 (11.73) n = 52	18.83 (10.38) n = 272	5.43**	0.50	22.48 (12.46) n = 249	22.48 (12.46) n = 72	19.60 (13.18) n = 177	3.20	0.26
Grade 2 Reading Passage	32.21 (18.14) n = 1,627	34.67 (16.92) n = 270	31.58 (18.39) n = 1,357	3.09	0.17	40.29 (19.20) n = 602	44.57 (19.11) n = 159	37.17 (18.69) n = 443	7.41	0.39
Grade 4 Reading Passage	68.44 (28.89) n = 1,691	72.17 (29.14) n = 274	67.50 (28.76) n = 1,417	4.66	0.16	68.41 (25.35) n = 577	72.63 (26.41) n = 164	64.97 (23.97) n = 413	7.66	0.30
Grade 1 Reading Passage Comprehension	45.23 (34.27) n = 324	41.03 (35.31) n = 52	48.42 (34.53) n = 272	19.52**	0.57	29.07 (33.79) n = 249	26.39 (33.54) n = 72	27.37 (32.72) n = 177	4.31	0.13
Grade 2 Reading Passage Comprehension	53.42 (32.94) n = 1,627	55.43 (31.48) n = 270	52.92 (33.29) n = 1,357	2.51	0.08	39.69 (41.72) n = 602	48.35 (42.13) n = 159	33.36 (40.34) n = 443	14.98	0.36
Grade 4 Reading Passage Comprehension	69.35 (28.44) n = 1,691	70.15 (26.03) n = 274	69.15 (29.03) n = 1,417	1.01	0.04	61.74 (30.48) n = 577	63.90 (29.70) n = 164	59.97 (31.05) n = 413	3.93	0.13

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 15: LISTENING COMPREHENSION AND DICTATION BY GENDER

Subtask	Kyrgyz Language					Russian Language				
	Total	Male	Fem.	Diff.	Cohen's d	Total	Male	Fem.	Diff.	Cohen's d
Grade 1 Listening Comprehension	83.81 (22.87) n = 324	80.21 (24.71) n = 166	88.59 (19.23) n = 158	8.38	0.37	50.79 (30.53) n = 249	47.75 (30.92) n = 121	53.72 (29.98) n = 128	5.97	0.20
Grade 2 Listening Comprehension	75.10 (26.40) n = 1,627	72.88 (27.15) n = 852	77.65 (25.30) n = 775	4.77**	0.18	68.43 (32.71) n = 602	64.77 (33.44) n = 303	71.87 (31.67) n = 299	7.10*	0.22
Grade 4 Listening Comprehension	68.66 (27.61) n = 1,691	68.04 (27.48) n = 898	69.38 (27.75) n = 793	1.34	0.05	87.12 (22.38) n = 577	88.40 (22.13) n = 295	85.80 (22.60) n = 282	2.61	0.12
Grade 1 Dictation	60.75 (31.94) n = 324	55.30 (32.08) n = 166	68.02 (30.37) n = 158	12.72*	0.40	74.56 (22.61) n = 249	69.97 (21.95) n = 121	78.99 (22.43) n = 128	9.03**	0.40
Grade 2 Dictation	53.98 (25.54) n = 1,627	50.11 (25.95) n = 852	58.43 (24.32) n = 775	8.32**	0.33	73.27 (24.45) n = 602	69.91 (25.39) n = 303	76.43 (23.12) n = 299	6.52**	0.27
Grade 4 Dictation	79.98 (19.68) n = 1,691	75.41 (21.41) n = 898	85.23 (15.95) n = 793	9.82**	0.50	85.28 (12.79) n = 577	83.49 (13.95) n = 295	87.12 (11.21) n = 282	3.63*	0.28

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 16: LISTENING COMPREHENSION AND DICTATION BY SCHOOL LOCATION

Subtask	Kyrgyz Language					Russian Language				
	Total	Urban	Rural	Diff.	Cohen's d	Total	Urban	Rural	Diff.	Cohen's d
Grade 1 Dictation	60.75 (31.94) n = 324	65.66 (33.50) n = 52	61.19 (31.27) n = 272	2.64	0.08	74.56 (22.61) n = 249	78.04 (20.15) n = 72	70.88 (24.65) n = 177	9.31*	0.41
Grade 2 Dictation	53.98 (25.54) n = 1,627	57.96 (24.28) n = 270	52.97 (25.76) n = 1,357	4.99	0.20	73.27 (24.45) n = 602	77.76 (21.67) n = 159	69.98 (25.84) n = 443	7.78	0.32
Grade 4 Dictation	79.98 (19.68) n = 1,691	83.73 (15.67) n = 274	79.03 (20.47) n = 1,417	4.70*	0.24	85.28 (12.79) n = 577	85.59 (12.52) n = 164	85.03 (13.02) n = 413	0.56	0.04
Grade 1 Listening Comprehension	83.81 (22.87) n = 324	80.13 (24.04) n = 52	85.29 (21.79) n = 272	9.10	0.40	50.79 (30.53) n = 249	51.39 (26.50) n = 72	51.04 (32.65) n = 177	0.64	0.02
Grade 2 Listening Comprehension	75.10 (26.40) n = 1,627	74.44 (24.70) n = 270	75.27 (26.82) n = 1,357	0.82	0.03	68.43 (32.71) n = 602	75.12 (28.25) n = 159	63.54 (34.86) n = 443	11.59	0.35
Grade 4 Listening Comprehension	68.66 (27.61) n = 1,691	69.59 (24.74) n = 274	68.43 (28.29) n = 1,417	1.16	0.04	87.12 (22.38) n = 577	90.38 (19.09) n = 164	84.45 (24.46) n = 413	5.93	0.27

Note: Standard deviation appears in parentheses.

* Significant at .05 level

** Significant at .01 level

TABLE 17: KYRGYZ LANGUAGE GENDER COMPARISON

	Kyrgyz Grade 1					Kyrgyz Grade 2					Kyrgyz Grade 4				
	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D
	M	F				M	F				M	F			
Familiar Word	28.12 (15.71)	34.12 (20.50)	6.00	Yes	0.33	45.21 (26.02)	55.86 (26.97)	10.65	Yes	0.40	66.19 (29.90)	77.37 (27.52)	11.19	Yes	0.38
Difficult Words per Minute	14.34 (7.47)	16.05 (8.77)	1.72		0.21	21.67 (13.76)	27.08 (13.92)	5.40	Yes	0.38	27.81 (15.15)	35.23 (15.67)	7.42	Yes	0.47
Oral Vocabulary	93.69 (8.25)	91.07 (9.94)	2.63		0.29	91.22 (11.37)	92.90 (10.27)	1.68	Yes	0.15	97.13 (5.90)	97.13 (5.77)	0.01		0.00
Reading Passage Fluency per Minute	18.19 (9.51)	21.76 (12.39)	3.57	Yes	0.33	28.83 (17.83)	36.09 (17.73)	7.26	Yes	0.40	60.33 (28.03)	77.77 (26.99)	17.45	Yes	0.60
Reading Passage Comprehension	45.51 (33.26)	44.85 (35.70)	0.66		0.02	50.15 (33.42)	57.19 (31.98)	7.05	Yes	0.21	66.27 (29.39)	72.88 (26.90)	6.61	Yes	0.23
Listening Comprehension	80.21 (24.71)	88.59 (19.23)	8.38		0.37	72.88 (27.15)	77.65 (25.30)	4.77	Yes	0.18	68.04 (27.48)	69.38 (27.75)	1.34		0.05
Dictation	55.30 (32.08)	68.02 (30.37)	12.72	Yes	0.40	50.11 (25.95)	58.43 (24.32)	8.32	Yes	0.33	75.41 (21.41)	85.23 (15.95)	9.82	Yes	0.50
Initial Letter Sound	90.86 (14.00)	94.59 (13.57)	3.73		0.27	89.50 (13.48)	90.74 (11.25)	1.24		0.10					
Letter Name Recognition	56.44 (19.78)	59.35 (19.50)	2.91		0.15	57.46 (19.29)	63.89 (20.82)	6.44	Yes	0.32					
Letter Sound	95.41 (10.25)	98.52 (5.04)	3.11	Yes	0.36	94.26 (12.20)	94.85 (12.32)	0.58		0.05					

Legend:
 Girls Favored
 Boys Favored
 Significant with at least small or moderate effect size

Cohen's d effect size
 small = 0.2
 moderate = 0.5
 large = 0.8

Note: Standard deviation appears in parentheses.

TABLE 18: RUSSIAN LANGUAGE GENDER COMPARISON

	Russian Grade 1					Russian Grade 2					Russian Grade 4				
	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D
	M	F				M	F				M	F			
Familiar Word	26.70 (14.37)	28.03 (14.28)	1.33		0.09	45.11 (20.01)	52.96 (21.95)	7.85	Yes	0.37	62.58 (22.64)	68.86 (23.38)	6.28		0.27
Difficult Words per Minute	17.84 (9.07)	18.23 (9.23)	0.39		0.04	24.55 (10.02)	28.93 (11.78)	4.38	Yes	0.39	35.35 (13.90)	42.17 (16.15)	6.83	Yes	0.44
Oral Vocabulary	91.89 (21.29)	97.28 (7.50)	5.38		0.34	88.89 (14.21)	92.14 (12.37)	3.26	Yes	0.24	92.19 (9.88)	93.45 (9.27)	1.26		0.13
Reading Passage Fluency per Minute	20.99 (10.59)	23.92 (13.92)	2.93		0.24	37.31 (18.30)	43.10 (19.62)	5.79	Yes	0.30	63.15 (24.64)	73.82 (24.98)	10.67	Yes	0.42
Reading Passage Comprehension	19.85 (29.26)	37.96 (35.55)	18.11	Yes	0.54	40.76 (43.62)	38.68 (39.89)	2.08		0.05	58.79 (31.86)	64.76 (28.74)	5.97	Yes	0.20
Listening Comprehension	47.75 (30.92)	53.72 (29.98)	5.97		0.20	64.77 (33.44)	71.87 (31.67)	7.10	Yes	0.22	88.40 (22.13)	85.80 (22.60)	2.61		0.12
Dictation	69.97 (21.95)	78.99 (22.43)	9.03	Yes	0.40	69.91 (25.39)	76.43 (23.12)	6.52	Yes	0.27	83.49 (13.95)	87.12 (11.21)	3.63	Yes	0.28
Initial Letter Sound	92.24 (16.84)	89.01 (19.49)	3.23	Yes	0.18	89.13 (17.15)	91.23 (13.56)	2.10		0.14					
Letter Name Recognition	45.04 (16.96)	41.36 (16.43)	6.07		0.36	56.77 (17.62)	58.04 (22.97)	1.27		0.06					
Letter Sound	87.09 (18.17)	91.63 (12.31)	4.54	Yes	0.29	90.21 (15.12)	91.12 (13.66)	0.91		0.06					

Legend:
 Girls Favored
 Boys Favored
 Significant with at least small or moderate effect size

Cohen's d effect size
 small = 0.2
 moderate = 0.5
 large = 0.8

Note: Standard deviation appears in parentheses.

TABLE 19: KYRGYZ LANGUAGE SCHOOL LOCATION COMPARISON

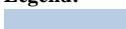
	Kyrgyz Grade 1					Kyrgyz Grade 2					Kyrgyz Grade 4				
	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D
	Urban	Rural				Urban	Rural				Urban	Rural			
Familiar Word	36.72 (20.62)	28.91 (17.17)	10.91	Yes	0.60	54.31 (27.52)	49.11 (26.77)	5.19		0.19	76.27 (28.75)	70.16 (29.38)	6.11	Yes	0.21
Difficult Words per Minute	16.25 (8.72)	14.70 (7.91)	2.28	Yes	0.28	25.46 (13.15)	23.86 (14.31)	1.60		0.11	34.13 (16.49)	30.54 (15.58)	3.59	Yes	0.23
Oral Vocabulary	88.85 (11.66)	93.42 (8.82)	5.22	Yes	0.57	92.28 (9.28)	91.93 (11.28)	0.36		0.03	96.97 (5.65)	97.17 (5.88)	0.20		0.03
Reading Passage Fluency per Minute	22.10 (11.73)	18.83 (10.38)	5.43	Yes	0.50	34.67 (16.92)	31.58 (18.39)	3.09		0.17	72.17 (29.14)	67.50 (28.76)	4.66		0.16
Reading Passage Comprehension	41.03 (35.31)	48.42 (34.53)	19.52	Yes	0.57	55.43 (31.48)	52.92 (33.29)	2.51	Yes	0.08	70.15 (26.03)	69.15 (29.03)	1.01		0.04
Listening Comprehension	80.13 (24.04)	85.29 (21.79)	9.10		0.40	74.44 (24.70)	75.27 (26.82)	0.82		0.03	69.59 (24.74)	68.43 (28.29)	1.16		0.04
Dictation	65.66 (33.50)	61.19 (31.27)	2.64		0.08	57.96 (24.28)	52.97 (25.76)	4.99	Yes	0.20	83.73 (15.67)	79.03 (20.47)	4.70	Yes	0.24
Initial Letter Sound	95.38 (10.38)	92.33 (13.98)	0.76		0.06	89.55 (11.96)	90.20 (12.64)	0.65	Yes	0.05					
Letter Name Recognition	60.22 (19.29)	57.04 (19.65)	4.00		0.20	56.92 (18.55)	61.34 (20.59)	4.42		0.22					
Letter Sound	96.15 (7.18)	96.98 (8.80)	1.44		0.17	94.39 (10.47)	94.57 (12.67)	0.18	Yes	0.02					

Legend:	Cohen's d	effect size
 Urban Favored	small =	0.2
 Rural Favored	moderate =	0.5
 Significant with at least small or moderate effect size	large =	0.8

Note: Standard deviation appears in parentheses.

TABLE 20: RUSSIAN LANGUAGE SCHOOL LOCATION COMPARISON

	Russian Grade 1					Russian Grade 2					Russian Grade 4				
	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D	Mean		Score Difference	Sig?	D
	Urban	Rural				Urban	Rural				Urban	Rural			
Familiar Word	27.84 (14.45)	26.03 (14.23)	3.42		0.24	51.13 (18.01)	47.71 (23.47)	3.42		0.16	66.45 (23.06)	65.05 (23.34)	1.40		0.06
Difficult Words per Minute	19.29 (8.78)	16.38 (9.48)	4.19	Yes	0.46	28.74 (10.49)	25.39 (11.46)	3.36		0.30	39.58 (16.37)	38.01 (14.60)	1.57		0.10
Oral Vocabulary	98.33 (3.75)	92.39 (20.08)	5.67		0.35	92.12 (11.81)	89.42 (14.33)	2.70		0.20	94.30 (7.46)	91.59 (10.91)	2.70		0.28
Reading Passage Fluency per Minute	22.48 (12.46)	19.60 (13.18)	3.20		0.26	44.57 (19.11)	37.17 (18.69)	7.41		0.39	72.63 (26.41)	64.97 (23.97)	7.66		0.30
Reading Passage Comprehension	26.39 (33.54)	27.37 (32.72)	4.31		0.13	48.35 (42.13)	33.36 (40.34)	14.98		0.36	63.90 (29.70)	59.97 (31.05)	3.93		0.13
Listening Comprehension	51.39 (26.50)	51.04 (32.65)	0.64		0.02	75.12 (28.25)	63.54 (34.86)	11.59		0.35	90.38 (19.09)	84.45 (24.46)	5.93		0.27
Dictation	78.04 (20.15)	70.88 (24.65)	9.31	Yes	0.41	77.76 (21.67)	69.98 (25.84)	7.78		0.32	85.59 (12.52)	85.03 (13.02)	0.56		0.04
Initial Letter Sound	92.92 (13.88)	88.82 (21.12)	4.50		0.25	91.42 (13.75)	89.33 (16.52)	2.10		0.14					
Letter Name Recognition	45.04 (16.96)	41.36 (16.43)	6.07		0.36	56.77 (17.62)	58.04 (22.97)	1.27		0.06					
Letter Sound	92.92 (13.88)	88.82 (21.12)	4.50		0.29	91.42 (13.75)	89.33 (16.52)	2.10		0.15					

Legend:	Cohen's d	effect size
 Urban Favored	small =	0.2
 Rural Favored	moderate =	0.5
 Significant with at least small or moderate effect size	large =	0.8

Note: Standard deviation appears in parentheses.

U.S. Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

www.usaid.gov