End-of-Grade-2 Evaluation Report

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In September 2012, Room to Read began a two-year, internal study to measure the impact of its Vietnamese Reading and Writing Instruction program in Vietnam. As part of the data collection that occurred in May 2014 after two academic years of the program, Room to Read administered reading assessments to Grade 2 pupils in 10 schools targeted by the program and 10 comparison schools. The end-of-Grade-2 results showed that pupils in project schools and comparison schools scored at similarly high levels and experienced similar gains. At best, the results suggest that the program is having only a marginal impact on children's reading skills.

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1 Executive Summary

In September 2012, Room to Read began a two-year internal evaluation of the Vietnamese Reading and Writing Instruction program in Vietnam. The aim of the evaluation was to determine the impact of the program on children's reading skills. Data collected in May 2014 revealed that, at best, the program is having a marginal impact on the development of pupils' reading skills by the end of Grade 2.

What is the Reading and Writing Instruction program?

Room to Read's Reading and Writing Instruction (RWI) program is a school-based intervention that aims to strengthen the teaching and learning of reading and writing in the early primary grades. The program works in conjunction with a country's existing language curriculum and includes detailed lesson plans, classroom materials, and comprehensive teacher professional development. The program has had a substantial impact on reading skills in nearly all of the countries in which it operates. In Vietnam, a partial program was initiated during the 2011-2012 school year in Grade 1 classrooms at 10 schools in Vinh Long Province. This program was focused primarily on the learning environment. A year later during the 2012-2013 school year, a full skills-based program was launched in Grade 1 classrooms in the same schools. The skills-based program then expanded to Grade 2 classrooms at these schools during the 2013-2014 school year.

What were the evaluation results?

In Vietnam, children benefitting from two years of the RWI program demonstrated reading levels that were similar to those of children not benefitting from the program[1] (see Table 1.1 and Figure 1.1)**.** By the end of Grade 2, pupils from schools that benefitted from the RWI program (project schools) could, on average, read 76 words per minute and answer 4 out of 6 comprehension questions correctly. By contrast, pupils from schools that did not benefit from the RWI program (comparison schools) could read 72 words per minute and also answer 4 comprehension questions correctly. From the beginning of the 2012-13 school year (baseline) to the end of the school 2013-14 school year (end of Grade 2), project school pupils experienced only slightly higher reading-fluency gains than comparison school pupils, while pupils from both groups pupils experienced similar reading-comprehension gains.

FIGURE 1.1: Grade 1 Reading Assessment Results – Reading Fluency and Comprehension

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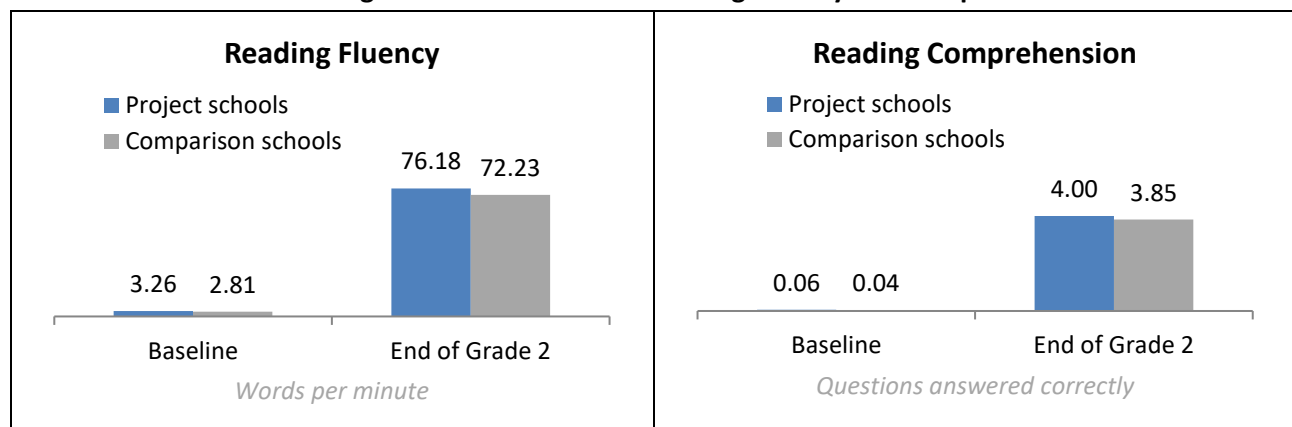
[1] In reporting results, we focus on reading fluency and comprehension because they are good indicators of whether pupils are on track to become independent readers.

TABLE 1.1: Grade 2 Reading Assessment Results

		Sample size	Baseline Mean	End-of-Grade-2 Mean	Gains from Baseline to End of Grade 2	Adjusted Difference in Gains over Comparison†
Letter naming fluency	Project	296	26.65	59.91	+33.26	-0.48
(letters per minute)	Comparison	462	25.90	59.97	+34.07	
Familiar word reading	Project	296	5.49	50.58	+45.09	+1.47
(words per minute)	Comparison	462	5.13	49.25	+44.12	
Nonsense word reading	Project	296	3.10	29.60	+26.50	-0.14
(words per minute)	Comparison	462	2.74	29.53	+26.79	
Passage reading fluency*	Project	296	3.47	81.78	+78.31	+4.60
(syllables per minute)	Comparison	462	3.00	77.66	+74.66	
Passage reading fluency*	Project	296	3.26	76.18	+72.92	+4.34
(words per minute)	Comparison	462	2.81	72.23	+69.42	
Reading comprehension	Project	296	0.06	4.00	+3.94	+0.27
(questions answered correctly)	Comparison	462	0.04	3.85	+3.81	

Legend of statistical significance of differences between project and comparison schools: *** < .001, ** < .01, * < .05

†Adjusted difference in gains reports the difference in gains after controlling for potential differences – such as pupil background – between project and comparison schools.

Of note, an evaluation of Grade 1 children that occurred simultaneous to the Grade 2 evaluation revealed a similar set of results. After one year of the RWI program, both project and comparison school pupils scored at similarly high levels. For example, project school pupils could read 46 words per minute while comparison school pupils could read 39 words per minute.

How do we interpret the results?

The evaluation results indicate that, at best, the Vietnamese RWI program is having a marginal impact on reading skills. By the end of Grade 2, the gains made by pupils in the Vietnamese RWI program were similar to the gains made by pupils in comparison schools. It is possible that the lack of differences between project and comparison school pupils was due to the sample size. Not only was the sample size small from the outset of the study (20 schools and 996 pupils), but the project group sample shrunk from 470 to 296 (37 percent) by the end of the study. As a result, our ability to detect small levels of impact between project and comparison schools was limited.

Also of note, the assessment results from Vietnam were quite high compared to results from evaluations Room to Read has conducted in other countries. The results, particularly the results among

comparison school pupils, suggest that Grade 1 and 2 pupils in the district in which the RWI program operates in Vietnam develop their reading skills at a faster rate than Grade 1 and 2 pupils in other Room to Read countries. The results among comparison school pupils also raise questions about the need for implementing the RWI program in the district where it is currently operating.

How was the research conducted?

In Vietnam, the evaluation included all 10 schools that began implementing the RWI program in 2012-13 school year and 10 comparison from the same district as the RWI-project schools. Though project and comparison schools were not randomly assigned the RWI intervention, differences between the two groups in terms of school and pupil background characteristics were minimal and controlled for during analysis of pupil results. In September 2012, we conducted baseline assessments with Grade 1 pupils from both groups of schools to measure the reading skills of children when they entered primary school. The baseline results indicated that pupils from the project group entered Grade 1 with the same reading skills as pupils from the comparison group. On average, both project school and comparison school pupils could name approximately 25 letters per minute and read 3 words per minute. In May 2013, we conducted another round of assessments with the same Grade 1 pupils who were assessed at baseline to measure the impact of the RWI program after one academic year. The end-of-Grade-1 results indicated that pupils from project and comparison schools could read at similar levels. After one academic year, project school pupils could, on average, read 35 words per minute while comparison school pupils could read 32 words per minute. The difference in gains from baseline to the end of Grade 1 between project and comparison schools was not statistically significant. In May 2014, we conducted a final round of assessments with the same pupils to measure the impact of the program after two academic years (see results in *Table 1.1*).

How were reading skills measured?

Room to Read assessed pupils' reading skills using a version of the Early Grade Reading Assessment (EGRA) that was adapted to Vietnamese by local experts. The EGRA featured five common tasks:

- *Letter naming fluency:* ability to read letters of the alphabet without hesitation and naturally. This is a timed test that assesses automaticity and fluency of letter recognition.
- *Familiar word fluency:* ability to read high frequency words. This assesses whether children can process words quickly.
- *Nonsense word fluency:* ability to read words that do not exist but whose letter combinations follow the rules of the language. They are plausible candidates for real words, although they are not real. This task assesses the child's ability to "decode" words fluently as distinct from their ability to recognize words they have seen before.
- *Passage reading fluency:* ability to read a passage that tells a story.
- *Reading comprehension:* ability to answer six questions based on the passage.

Assessments were administered individually with pupils by external data collectors who were trained by Room to Read.

What are the next steps?

Overall, the evaluation results suggest that the RWI program in Vietnam may not be necessary for pupils and schools in the region where it currently operates. As a next step, Room to Read will examine its programmatic strategy and available resources and make a decision on whether to continue the program in the existing schools, move the program to a region of greater need, or suspend the program in favor of other activities.

2 Introduction

Room to Read's Reading and Writing Instruction (RWI) program is a school-based intervention that aims to strengthen the teaching and learning of reading and writing in the early primary grades (see *Appendix A* for a more detailed description of the RWI program). To accomplish this goal, the RWI team in Vietnam worked with the Ministry of Education and Training (MoET) to design a program that provides a strong foundation in Vietnamese reading and writing skills for all children in the Room to Read schools with the goal that children will become fluent readers by the end of Grade 2 and develop a strong habit of reading during primary school.

To determine the level of impact of the intervention on children's learning, Room to Read RWI programs in all countries participate in an impact evaluation that includes literacy assessments at the beginning of Grade 1 (baseline) and at the end of Grades 1 and 2. The data from these evaluations enable Room to Read to:

1. Determine whether the RWI program is having an impact on pupils' reading skills;
2. Determine whether the implementation of the program facilitates the acquisition of early reading skills in children at a rate that ensures that they will reach the goal of becoming a fluent readers by the end of Grade 2; and
3. Identify reading skills that could be better supported by the program and determine how to improve these reading skills quickly and effectively.

In Vietnam, baseline data collection was conducted in September 2012 with Grade 1 pupils from 10 schools that were benefiting from the RWI program (referred to as the "project group") and 10 schools that were not benefiting from the RWI program (referred to as the "comparison group"). The baseline results indicated that , pupils from the project group entered Grade 1 with the same reading skills as pupils from the comparison group. On average, both project school and comparison school pupils could name approximately 25 letters per minute and read three words per minute. In May 2013, data were collected from the same pupils who were assessed at baseline to determine the impact of the RWI program after one academic year. The results from this data collection indicated that, on average, project group pupils and comparison group pupils experienced similar gains by the end of Grade 1. For example, project school pupils increased their reading fluency by 35 words per minute, while comparison school pupils increased their reading skills by 32 words per minute. In May 2014, another round of assessments occurred with the same pupils to measure the impact of the program after two academic years (see *Section 3: Results*).

(See *Appendix B* for a full description of the research design, including details around methodology, sampling, reading assessments, training assessors, data collection and entry, and data analysis.)

3 Results

3.1 School and Pupil Background Characteristics

Because the intervention was not allocated randomly to project and comparison schools, it is important to assess whether the two groups are comparable. Tables 3.1 and 3.2 below show the school- and pupil-level background characteristics of the project and comparison schools. At the school level, there were no significant differences between project and comparison schools in pupil-teacher ratio, teacher experience, or teacher education. At the pupil level, there were significant differences ($p < .05$) between project and comparison pupils in regards to father occupation (government service and small business) and mother occupation (government service and small business). Statistical comparisons of assessment results took these differences into consideration.

TABLE 3.1: Background Characteristics of Sample Schools*

	Project Schools		Comparison Schools	
	n	**Mean (SD) or %**	**n**	**Mean (SD) or %**
All schools	10	-	10	-
District				
Tam Binh	10	100%	10	100%
Location				
Rural	10	100%	10	100%
Grade 2 pupil-teacher ratio	10	20.79 (4.51)	10	22.92 (5.05)
Percentage of teachers with 4+ years of teaching experience				
1-25%	0	0%	0	0%
26-50%	0	0%	0	0%
51-75%	4	44%	5	50%
76-100%	6	56%	5	50%
Percentage of teachers graduating from secondary school				
1-25%	1	11%	0	0%
26-50%	3	22%	5	50%
51-75%	6	67%	4	40%
76-100%	0	0%	1	10%

*Differences between project and comparison schools were not statistically significant.

TABLE 3.2: Background Characteristics of Sample Pupils

	Project Schools		Comparison Schools	
	n	Mean (SD) or %	n	Mean (SD) or %
Pupils	296	-	462	
Male	157	53%	241	52%
Female	139	47%	221	48%
Age	296	8.03 (0.23)	462	8.02 (0.15)
Attended pre-school	287	97%	433	93%
Mother tongue is Vietnamese	284	96%	452	98%
Lives with parents	268	91%	396	86%
Father occupation(s)				
Agriculture	177	60%	236	51%
Wage earner	53	18%	76	16%
Government service*	12	4%	46	10%
Small business*	10	3%	37	8%
Unemployed	12	4%	11	2%
Other	27	9%	50	11%
Missing	5	2%	6	1%
Mother occupation(s)				
Agriculture	180	61%	213	46%
Wage earner	43	15%	69	15%
Small business*	16	5%	50	11%
Government service*	5	2%	47	10%
Unemployed	19	6%	18	4%
Other	32	11%	65	14%
Missing	1	0%	0	0%
Mode of travel to school				
Walk	110	37%	167	36%
Motorbike	97	33%	170	37%
Bicycle	87	29%	124	27%
Other	2	1%	1	0%

Legend of statistical significance: *** < .001, ** < .01, * < .05

3.2 Correlations among Assessment Tasks

Because all of the assessment tasks used in the evaluation measure the development of reading, we would expect them to be highly related. Checking this assumption gives us some indication of whether the assessments functioned as we intended them to and thereby serves as a rough measure of validity. Table 3.3 below shows Pearson's bivariate correlations[2] of the assessment tasks for the Grade 1

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[2] The Pearson bivariate correlation shows the linear relationship between two sets of data. Correlations from 0.5 to 1.0 or -0.5 to -1.0 are considered high, while correlations from 0.3 to 0.5 or -0.3 to -0.5 are considered medium.

assessments. Correlations between most reading tasks were high and above 0.50. The exceptions were letter naming and reading comprehension, familiar word fluency and reading comprehension and nonsense word fluency and reading comprehension. Despite these exceptions, the general pattern of the correlations provides support to the validity of the assessments.

TABLE 3.3: Correlation of Reading Assessment Tasks

Task	Letter naming fluency	Familiar word fluency	Nonsense word fluency	Passage reading fluency	Reading comprehension
Letter naming fluency	1.000				
Familiar word reading	0.633***	1.000			
Nonsense word reading	0.538**	0.814**	1.000		
Passage reading fluency	0.555***	0.843***	0.772***	1.000	
Reading comprehension	0.331***	0.497***	0.415***	0.637***	1.000

Legend of statistical significance: *** < .001, ** < .01, * < .05

3.3 Project and Comparison Group Comparisons

3.3.1 Changes in Average Reading Skills

Table 3.4 below provides an overview of the baseline (September 2012) and end-of-Grade-2 (May 2014) assessment results by project and comparison group across each assessment task. Overall, **project school pupils and comparison school pupils scored similarly and experienced similar gains by the end of Grade 2.** The only assessment task on which project school pupils made significantly greater gains (p < .05) than comparison school pupils was passage reading fluency. On average, project school pupils increased their passage reading fluency by 78 words per minute compared to a 75 word-per-minute increase among comparison school pupils. On the other assessment tasks, differences in gains between project school pupils and comparison school pupils were not statistically significant.

Differences in pupil gains are further examined by looking at the adjusted effect sizes for the RWI program across the assessment tasks (see Figure 3.1). The effect size statistic is used to make comparisons across measures that use different scales or units. For the purposes of this analysis, we used the standardized mean effect size statistic, through which an effect size of .80 or higher is considered large. We calculated effect sizes by determining the adjusted difference in gains between project school pupils and comparison school pupils through linear regression analysis (see *Appendix B: Research Design*) and then dividing this difference by the standard deviation of comparison pupils' scores at the end of Grade 2. **The effect sizes for all of the tasks were small or negative**.

TABLE 3.4: Grade 2 Reading Assessment Results – Project vs. Comparison

Assessment Task	Group	n	BASELINE Mean	Standard Deviation	END OF GRADE 2 Mean	Standard Deviation	Gains	Adjusted Difference in Gains†
Letter naming fluency	Project	296	26.65	12.38	59.91	11.48	+33.26	-0.48
(letters per minute)	Comparison	462	25.90	12.94	59.97	13.05	+34.07	
Familiar word reading	Project	296	5.49	5.06	50.58	17.16	+45.09	+1.47
(words per minute)	Comparison	462	5.13	4.86	49.25	19.93	+44.12	
Nonsense word reading	Project	296	3.10	3.22	29.60	14.01	+26.50	-0.14
(words per minute)	Comparison	462	2.74	2.76	29.53	15.39	+26.79	
Passage reading fluency***	Project	296	3.47	6.16	81.78	28.32	+78.31	+4.60
(words per minute)	Comparison	462	3.00	5.29	77.66	31.22	+74.66	
Passage reading fluency***	Project	296	3.26	5.60	76.18	26.21	+72.92	+4.34
(syllables per minute)	Comparison	462	2.81	4.73	72.23	28.84	+69.42	
Reading comprehension	Project	296	0.06	0.25	4.00	1.74	+3.94	+0.27
(questions answered correctly)	Comparison	462	0.04	0.23	3.85	1.74	+3.81	

Legend of statistical significance of differences between project and comparison schools: *** < .001, ** < .01, * < .05

†Adjusted difference in gains reports the coefficient of the regression analysis conducted with random effects at the school level and age, gender, and classroom type as covariates.

**FIGURE 3.1: Adjusted Effect Sizes across Assessment Tasks**
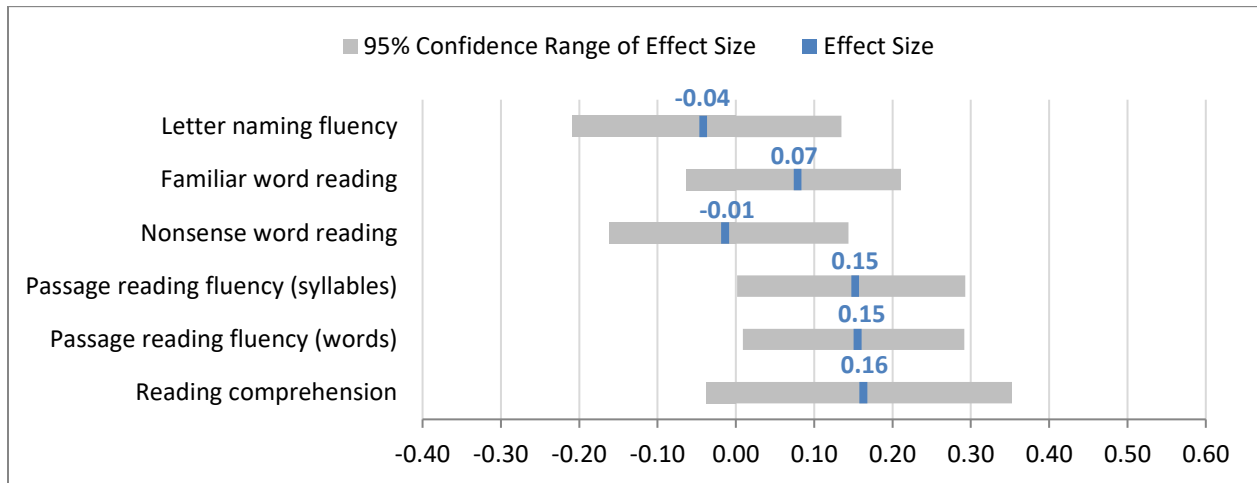
Of note, an evaluation of Grade 1 children that occurred simultaneous to the Grade 2 evaluation revealed a similar set of results. After one year of the RWI program, both project and comparison school pupils scored at similarly high levels. For example, project school pupils could read 46 words per minute while comparison school pupils could read 39 words per minute.

3.3.2 Fluency Benchmarks

Although there has been limited research into fluency in Vietnamese, independent studies in multiple countries have shown that children need to reach a fluency rate of roughly 45 – 60 words read per minute (or local-language equivalent) as a prerequisite to read with comprehension (Abadzi, 2011). We aim for children to reach this fluency level by the end of Grade 2 in Vietnam.

As shown in Figure 3.2 below, 86 percent of project school pupils met or exceeded the fluency benchmark of 45 words per minute by the end of Grade 2, while 83 percent of comparison school pupils met or exceeded this target. The difference between project and comparison school pupils was not statistically significant. These data indicate that most children achieved the fluency target regardless of whether they did or did not benefit from the RWI program.

FIGURE 3.2: Percentage of Pupils Reading 45 Words per Minute – All Pupils
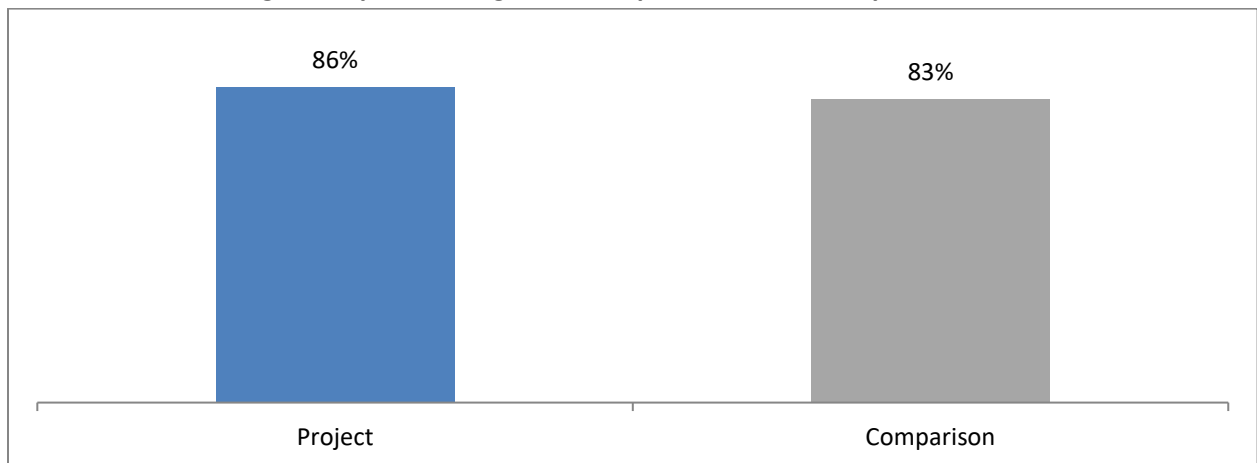
3.3.3   Zero Scores

Analysis of zero scores provides another view of how pupils performed, with a particular focus on children with the lowest achievement. In the EGRA, zero scores include those instances in which a pupil does not provide correct responses to any of the items in a particular assessment task, as well as those instances when a pupil does not answer or respond correctly to any item in the first line of the assessment task (also known as a discontinued task). Zero scores on tasks show the subset of pupils who can be characterized as nonreaders.

Table 3.5 below compares zero scores between project and comparison school pupils. Consistent with the mean assessment score results, **the percentage of pupils registering zero scores was similar for Room to Read project schools and comparison schools across all of the tasks.** The percentage of pupils registering zero scores at project schools ranged from 0 to 3 percent, while the percentage of pupils registering zero scores at comparison schools ranged from 0 to 4 percent. Of note, the only task on which project school children registered zero scores was the reading comprehension task.

 (See *Appendix D* for the full distribution of scores across tasks by group.)

TABLE 3.5: Percentage of Pupils Registering Zero Scores – Overall and by Gender

	Project Schools			Comparison Schools		
Assessment Task	Overall	Boys	Girls	Overall	Boys	Girls
Letter naming fluency	0%	0%	0%	0%	0%	0%
Familiar word fluency	0%	0%	0%	0%	0%	0%
Nonsense word reading	0%	0%	0%	2%	2%	1%
Passage reading fluency	0%	0%	0%	1%	1%	0%
Reading comprehension	3%	4%	2%	4%	5%	3%

3.4   Gender Comparisons

3.4.1   Changes in Average Reading Skills

Though the primary focus of the RWI program evaluation is comparing pupils who benefit from the RWI program with those who do not, Room to Read is also interested in the interaction between presence of the RWI program and gender. Table 3.6 below provides the baseline and end-of-Grade-1 assessment results disaggregated by gender for project and comparison school pupils. Data show that, in the absence of the program, boys and girls performed at similar levels. Among comparison school pupils, the differences in gains between boys and girls were not significant across any of the tasks.

The RWI program did not have any notable impact on either boys or girls. The differences in gains between project school boys and comparison school boys were not statistically significant for any of the assessment tasks. Similarly, the differences in gains between project school girls and comparison school

girls were not statistically significant for any of the assessment tasks. Additionally, the differences in gains between project school boys and project school girls were not statistically significant for any of the assessment tasks. As shown in Figures 3.3 and 3.4, the effect sizes were small or negative for both boys and girls on all assessment of the tasks.

TABLE 3.6: Comparison of Mean Scores by Gender*

Assessment Task	Group	n	BASELINE Mean	BASELINE Standard Deviation	END OF GRADE 2 Mean	END OF GRADE 2 Standard Deviation	Gains	Adjusted Difference in Gains†
Letter naming fluency	Project boys	157	26.22	12.41	59.01	11.15	+32.79	-0.86
(letters per minute)	Comparison boys	241	24.34	12.68	58.91	12.17	+34.57	
	Project girls	139	27.14	12.38	60.92	11.79	+33.78	-0.79
	Comparison girls	221	27.59	13.03	61.12	13.87	+33.53	
Familiar word reading	Project boys	157	5.29	4.71	48.10	17.25	+42.81	+2.72
(words per minute)	Comparison boys	241	4.87	4.61	45.84	19.11	+40.97	
	Project girls	139	5.72	5.44	53.37	16.68	+47.65	-0.90
	Comparison girls	221	5.41	5.11	52.96	20.19	+47.55	
Nonsense word reading	Project boys	157	2.99	2.68	27.97	13.19	+24.98	+0.28
(words per minute)	Comparison boys	241	2.63	2.93	27.70	15.10	+25.07	
	Project girls	139	3.24	3.75	31.45	14.72	+28.21	-1.03
	Comparison girls	221	2.86	2.56	31.52	15.48	+28.66	
Passage reading fluency	Project boys	157	3.25	5.50	77.46	27.86	+74.21	+6.89
(syllables per minute)	Comparison boys	241	2.91	5.22	72.36	29.36	+69.45	
	Project girls	139	3.71	6.84	86.65	28.15	+82.95	-0.65
	Comparison girls	221	3.10	5.38	83.43	32.22	+80.33	
Passage reading fluency	Project boys	157	3.04	4.95	72.18	25.80	+69.14	+6.19
(words per minute)	Comparison boys	241	2.70	4.59	67.43	27.14	+64.73	
	Project girls	139	3.51	6.26	80.71	26.03	+77.20	-0.34
	Comparison girls	221	2.94	4.89	77.47	29.78	+74.53	
Reading comprehension	Project boys	157	0.06	0.27	3.77	1.78	+3.71	+0.10
(questions answered correctly)	Comparison boys	241	0.02	0.21	3.74	1.73	+3.72	
	Project girls	139	0.05	0.22	4.26	1.66	+4.21	+0.42
	Comparison girls	221	0.06	0.25	3.98	1.74	+3.92	

* None of the differences in gains were statistically significant.
†Adjusted difference in gains reports the coefficient of the regression analysis conducted with random effects at the school level and age and classroom type as covariates.

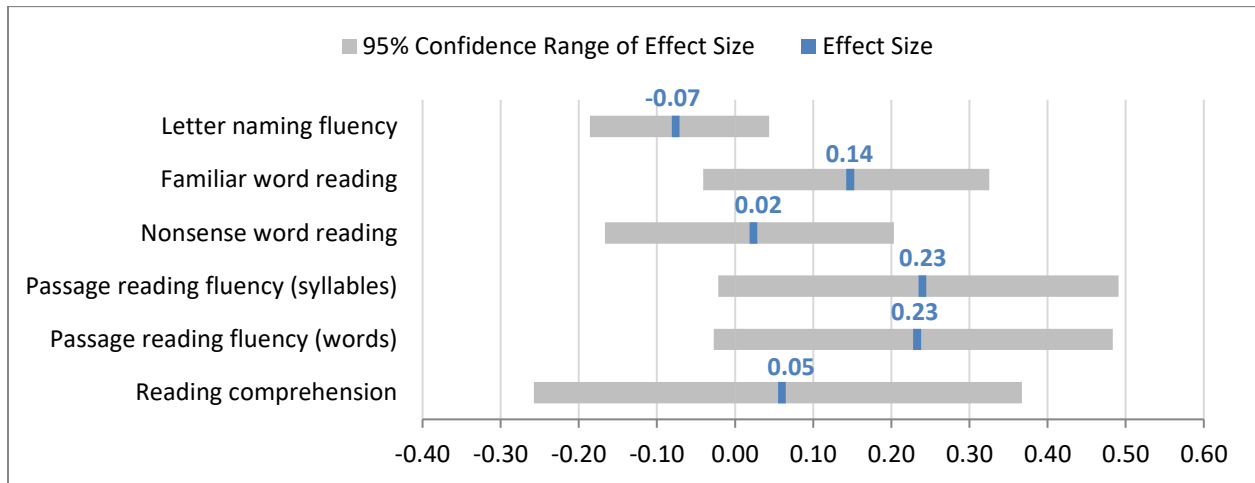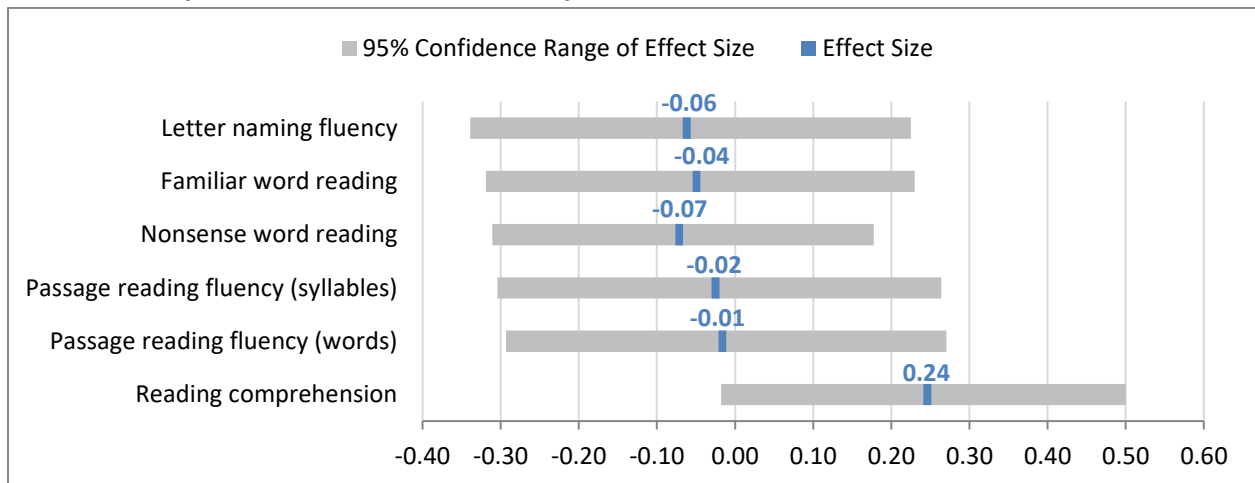**FIGURE 3.4: Adjusted Effect Sizes – Boys in Project Schools**

FIGURE 3.5: Adjusted Effect Sizes – Girls in Project Schools

3.4.2 Fluency Benchmarks

Consistent with the mean assessment results, analysis of the fluency benchmark data indicated that both boys and girls from project schools performed as similar levels as their peers from comparison schools. As shown in Figure 3.6 below, 84 percent of project school boys attained the fluency benchmark of 45 words per minute compared to 82 percent of comparison school boys. Similarly, 89 percent of project school girls achieved the fluency benchmark compared to 85 percent of comparison school girls. These differences were not statistically significant. The differences between project school boys and project school girls also were not significant.

FIGURE 3.6: Percentage of Pupils Reading 45 Words per Minute – By Gender
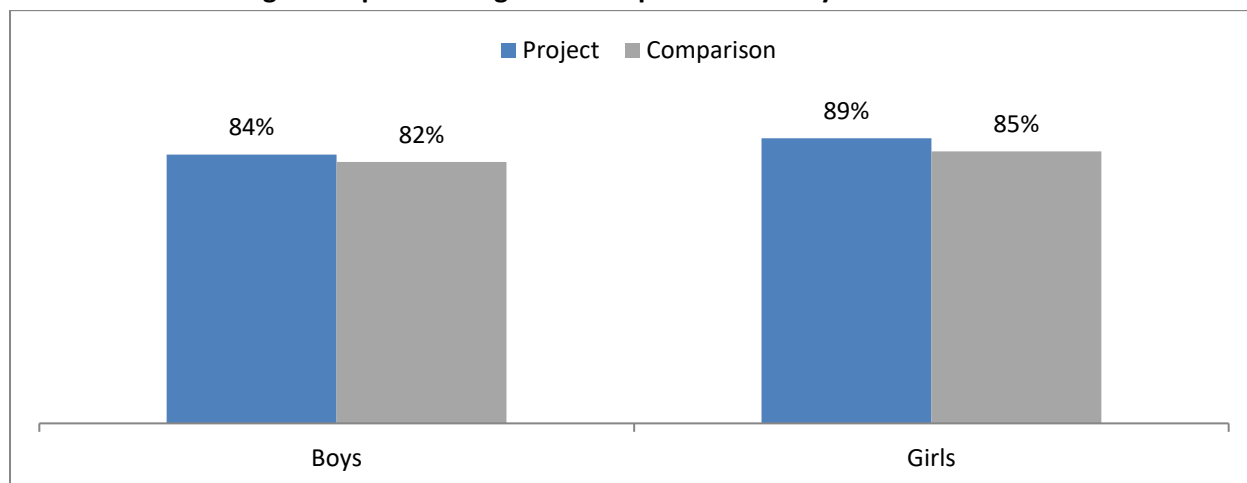
3.4.3   Zero Scores

Regardless of gender, the percentage of pupils registering zero scores was similar for Room to Read project schools and comparison schools across all of the tasks regardless (see Table 3.5 above). There were no statistically significant differences between project school boys and comparison school boys in regards to percentage of pupils registering zero scores. Similarly, there were no statistically significant differences between project school girls and comparison school girls in regards to percentage of pupils registering zero scores. Of note, differences between project school boys and project school girls also were not significant.

 (See *Appendices E* and *F* for the full distribution of scores across tasks by gender.)

4   Context and Limitations

Interpretation of the above results should include consideration of the particular context in which the RWI program was evaluated, as well as the limitations of the evaluation design.

4.1   Context

Overall, the results from Vietnam are quite high compared to results from evaluations conducted in other countries. By the end of Grade 2, project school pupils could, on average, read 76 words per minute, and comparison school pupils could read 72 words per minute. The high fluency score among comparison school pupils is particularly notable, as comparison school pupils in other countries in which Room to Read has evaluated the RWI program have, on average, only been able to read between 12 and 25 words per minute by the end of Grade 2. These data suggest that, in general, Grade 2 pupils in the district in which the RWI program operates in Vietnam develop their reading skills at a faster rate than Grade 2 pupils in other countries in which Room to Read has conducted evaluations. This finding is generally consistent with data on adult literacy rates globally: according to the UNESCO Institute for

Statistics, Vietnam's 97 percent adult literacy ranks among the highest of Room-to-Read-supported countries (http://www.uis.unesco.org/datacentre).

4.2   Limitations

One limitation of this evaluation was comparability. The validity of impact evaluation results rests on the strength of the assumption that the comparison schools, on average, are comparable to the group of project schools amongst all observable and unobservable characteristics that may affect the outcome being evaluated. Because program schools were not randomly assigned the intervention, it may be possible that they differed from comparison schools in ways that we did not assess. As explained in *Appendix B: Research Design*, every effort was made during sampling to ensure that a comparable set of schools was chosen, and school and pupil-level characteristics were later analyzed to check whether any significant differences did in fact exist. As described in *3.1: School and Pupil Background Characteristics*, significant differences were found in regards to father and mother occupation. These were included as control variables in the analysis of project outcomes.

A second limitation of this study was sample size. From the outset, the sample for the study was small and included only 20 schools (10 of which were project schools) and approximately 46 pupils per school. Though small, this sample was large enough to detect effect sizes of 0.25 or greater. By the end of the study, however, the number of sample pupils from project schools had decreased by a third (from 470 pupils to 296 pupils). The main reason behind the reduction in the sample size from baseline to the end of Grade 2 was the district-wide reassignment of satellite schools to main schools prior to the 2013-14 school year, which resulted in several satellite schools shifting their school affiliation to schools that do not benefit from the RWI intervention. [3] The classes in the satellite schools that shifted affiliation stopped receiving the RWI intervention and were excluded from the end-of-Grade-2 data collection. Due to this reduction in sample size, the minimum detectable effect size rose to 0.30. Consequently, we cannot conclude that the program had an effect, but we can say with confidence that any possible effect was small (< 0.30 SD).

5   Conclusion

The evaluation results indicate that, at best, the Vietnamese RWI program is having a marginal impact on reading skills. By the end of Grade 2, the gains made by pupils in the Vietnamese RWI program were similar to the gains made by pupils in comparison schools. It is possible that the lack of differences between project and comparison school pupils was due to the sample size. Not only was the sample size small from the outset of the study (20 schools and 996 pupils), but the project group sample shrunk from 470 to 296 (37 percent) by the end of the study. As a result, our ability to detect small levels of impact between project and comparison schools was limited.

Also of note, the assessment results from Vietnam were quite high compared to results from evaluations Room to Read has conducted in other countries. The results, particularly the results among

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[3] As discussed in *4.3 Sample*, schools in Vietnam may consist of two parts: a main school and its satellite school(s), which operates in a different location but is overseen by the same principal.

comparison school pupils, suggest that Grade 1 and 2 pupils in the district in which the RWI program operates in Vietnam develop their reading skills at a faster rate than Grade 1 and 2 pupils in other Room to Read countries. The results among comparison school pupils also raise questions about the need for implementing the RWI program in the district where it is currently operating.

6 Next Steps

Overall, the evaluation results suggest that the RWI program in Vietnam may not be necessary for pupils and schools in the region where it currently operates. As a next step, Room to Read will examine its programmatic strategy and available resources and make a decision on whether to continue the program in the existing schools, move the program to a region of greater need, or suspend the program in favor of other activities.

7 References

Abadzi, H. (2011). Reading Fluency Measurements in EFA FTI Partner Countries: Outcomes and Improvement Prospects. Working Paper.

Harris, T.L. & Hodges, R.E., (Eds.). (1995): The literacy dictionary: The vocabulary of reading and writing. Newark, DE: International Reading Association.

Kuhn, M., Schwanenflugel, P. J., & Meisinger, E. B. (2010). Aligning theory and assessment of reading fluency: Automaticity, prosody, and the definitions of fluency. *Reading Research Quarterly*, 45, 230-251.

Snow, C.E. (2002). Reading for understanding: Toward and R&D program for reading comprehension. RAND Corp. Available at: http://www.rand.org/pubs/monograph_reports/MR1465.html.

StataCorp. (2013). Stata Statistical Software: Release12. College Station, TX:: StataCorp LP.

Appendix A: Reading and Writing Instruction Intervention Overview

The Reading and Writing Instruction program is a classroom intervention designed to complement and increase the effectiveness of the government language curriculum. The process of developing the intervention includes the completion of a scope and sequence of instruction, detailed lesson plans, classroom materials, and comprehensive teacher professional development. Literacy facilitators, or coaches, provide classroom support to teachers throughout the intervention.

During the research and development stage of any Room to Read literacy program, the RWI teams analyze the language curriculum and classroom instruction to determine whether all five core elements necessary in a comprehensive language curriculum are included. These elements, which are best addressed through a combination of listening, speaking, reading, and writing activities and lessons, include:

- **Phonological awareness**: Phonological awareness is knowing the sound structure of spoken language.
- **Phonics**: use of the code (sound-symbol relationships) to recognize words.
- **Vocabulary**: The knowledge of the meaning and pronunciation of words.
- **Fluency**: Fluency is determined by how quickly, accurately, and expressively someone reads, which, taken together, facilitate the reader's construction of meaning. It is demonstrated during oral reading through ease of word recognition, appropriate pacing, phrasing, and intonation. It is a factor in both oral and silent reading that can limit or support comprehension (Kuhn et al., 2010).
- **Comprehension**: A definition of reading comprehension that captures the purpose of reading is "intentional thinking during which meaning is constructed through interactions between text and reader" (Harris & Hodges, 1995, p. 207). Reading comprehension consists of three elements: the reader, the text, and the activity of reading (Snow, 2002). Writing skills are incorporated into the instructional approach through all components. In addition, teachers teach children how to write and pupil workbooks provide daily opportunities to practice the writing skills taught.

Appendix B: Research Design

Methodology

The impact evaluation employs a quasi-experimental design that includes pupils from schools that benefit from the RWI program (project schools) and pupils from schools that do not benefit from the RWI program (comparison schools). Data collection occurs at three points in time and follows the same pupils over two academic years. At the beginning of Year 1, a baseline assessment was conducted with project and comparison school pupils who are entering Grade 1 to assess pupils' reading level prior to RWI program exposure. Subsequent rounds of data collection assess progress of pupils from the project schools after one and two years of the program in comparison with pupils from the comparison schools.

The structure and design of the evaluation allows for an examination of the effects of the RWI program on pupil achievement over time. The assessment results also help us understand pupils' reading skill strengths and weaknesses and provide Room to Read staff, classroom teachers, and administrators with information on program efficacy. These data guide program improvement strategies to ensure that pupils achieve the learning goals.

Sampling

The aim of sampling was to ensure that comparison and project schools were as similar as possible before the introduction of the RWI program. The project group consisted of all 9 of the RWI schools[4] that began implementing the RWI program during the 2012-13 school year. The comparison group consisted of 10 schools that were randomly selected from a list of primary schools located in the same district as those in which the project schools are located.[5] At the time of baseline data collection, we assessed all Grade 1 and 2 pupils who:

- Did not have physical, sensory or significant cognitive disabilities[6]; and
- Were present on the day(s) of data collection.

For the end-of-Grade-2 assessment, we attempted to assess the same pupils who were assessed during the baseline assessment (note: due to the limited number of schools and pupils in the program, all Grade 1 children were assessed during the baseline assessment). However, we were able to assess only 758 of the 996 pupils who were assessed during the baseline assessment. This included 296 project school pupils and 470 comparison school pupils. A main reason behind the reduction in the sample size from baseline to the end of Grade 2 was the district-wide reassignment of satellite schools to main schools, which resulted in several satellite schools shifting their school affiliation to schools that do not benefit from the RWI intervention (see *4. Context and Limitations* for more details).

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[4] In Vietnam, one school consists of two parts: a main school and its satellite school(s), which operates in a different location but is overseen by the same principal. At the time of baseline data collection, the RWI program was working in 10 schools: 10 main schools with 14 satellite schools. At the time of end-of-Grade-2 data collection, however, one of these main schools had merged with another main school, reducing the total number of project schools from 10 to 9.

[5] Comparison school districts were selected based on such factors as geographic location, population, inhabitants' socioeconomic status and livelihoods, and number, size, and location (e.g., rural, semi-rural, urban) of schools in the district.

[6] We were not able to identify or exclude children with learning and/or reading disabilities as such disabilities are difficult to detect in Grade 1 and 2.

Reading Assessments

In this evaluation, Room to Read is assessing pupils' literacy skills using a version of the Early Grade Reading Assessment (EGRA) that was adapted from English to Vietnamese by local experts. Room to Read used a version of the EGRA that was designed according to the expected reading levels of Grade 2. The EGRA was comprised of five common tasks (see *Appendix C* for a version of the assessment used for Vietnamese):

- *Letter naming fluency:* ability to read letters of the alphabet without hesitation and naturally. This is a timed test that assesses automaticity and fluency of letter recognition.
- *Familiar word fluency:* ability to read high frequency words. This assesses whether children can process words quickly.
- *Unfamiliar word fluency:* ability to read words that do not exist but whose letter combinations follow the rules of the language. They are plausible candidates for real words, although they are not real. This task assesses the child's ability to "decode" words fluently as distinct from their ability to recognize words they have seen before.
- *Passage reading fluency:* ability to read a passage that tells a story.
- *Reading comprehension:* ability to answer five questions based on the passage.

For the end-of-Grade-2 data collection, we developed four distinct passages and corresponding sets of questions for the passage reading and reading comprehension tasks that were systematically rotated among pupils.

Assessments were administered individually to pupils by external assessors who were trained by Room to Read.

Assessor Training

In total, 34 university pupils and 4 lecturers – all from the Ho Chi Minh Pedagogy University – were trained as assessors. The training occurred from April 25-29, 2014. It was facilitated by Room to Read's Asia Regional Director for Research, Monitoring and Evaluation (RM&E), the Vietnam RM&E Officer, and the Vietnam RWI team. Days 1-2 of the training focused on reviewing the purpose and different tasks of the assessment. Assessors also practiced administering the assessment using video clips of pupils reading each assessment task. Days 3-4 of the training, which took place at four non-RWI schools located in the Long Ho district of Vinh Long Province, provided an opportunity for assessors to further practice assessment administration with actual pupils.

Data Collection

Data collection took place from May 4-9, 2014 at 10 RWI project schools and 10 comparison schools located in the Tam Binh district of Vinh Long Province. There were four data collection teams, with each team having 9-10 assessors. One of the university professors was assigned to each team and given the role of Team Leader. In this role, he/she ensured that the assessments were administered correctly and that all the necessary data were captured.

Data Entry

Data entry was done by external data entry operators while a member of the Research, Monitoring, and Evaluation team acted as a quality manager. Data were entered into an Excel spreadsheet and later imported into Stata statistical software for analysis.

Data Analysis[7]

The first aim of the data analysis was to determine if there were significant differences in school and pupil background variables between the project and comparison groups. For the school background variables, we examined differences in Grade 2 pupil-teacher ratio by conducting *t* tests. We also examined differences in the percentage of teachers who had graduated from secondary school and the percentage of teachers with four or more years of teaching experience using chi square tests. For the pupil background variables, we examined differences in age, gender, participation in pre-school, whether the pupil lives with her/his parents, parent occupation, and mode of travel to school by conducting regression analysis (linear for the continuous variables and logistic for the categorical variables) with random effects at the school level. The equations included the pupil background variable (age, gender, etc.) as the dependent variable, and school type (project or comparison) as the independent variable.

The second aim of the data analysis was to determine if pupils in the project group made greater gains from baseline to the end of Grade 2 than pupils in the comparison group. The analysis strategy was to compare reading levels in the two assessment periods (baseline versus end of Grade 2) among the two experimental groups (project versus comparison). An impact of the RWI program is evident if there is a greater gain from baseline to end of Grade 2 among the project groups compared to the comparison group. To determine this, we conducted linear regression analysis with random effects at the school level. For all of the assessment tasks, the analyses included the end-of-Grade-2 assessment score as the dependent variable, school type as the independent variable, and baseline score, father occupation as government service, father occupation as small business, mother occupation as government service, and mother occupation as small business as covariates.[8] To account for potential differences between the four reading passages that were used, we also created dummy variables for the different passages and included these as covariates in the analyses of the passage reading and reading comprehension tasks. We followed a similar procedure to analyze differences in gains by gender. We created a dummy variable for gender and conducted linear regression analysis with random effects at the school level to examine differences in gains across each of the following: project school boys versus comparison school boys and project school girls versus comparison school girls. Each analysis included the end-of-Grade-2 score as the dependent variable, school type as the independent variable, and age, baseline score, father occupation as government service, father occupation as small business, mother occupation as

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[7] All data analyses were conducted using Stata statistical software (Stata Corp, 2013).

[8] Age and gender were included in the regression model because their known effects on pupils' reading performance. Father occupation as a government service, father occupation as small business, mother occupation as government service, and mother occupation as small business were included because of a significant difference (p < .05) between project and comparison school pupils for these variables.

government service, and mother occupation as small business as covariates. For the passage reading and reading comprehension tasks, the dummy variables for passage were also included as covariates.

Next, we examined the percentage of pupils from each group achieving the Grade 2 fluency target of 45 words per minute. We conducted logistic regression analysis with random effects at the school level to determine if significant differences existed between the percentage of pupils achieving the fluency target across each of the following: project school pupils versus comparison school pupils and boys versus girls. The equations included a dummy variable for whether pupils achieved the target as the dependent variable and school type or gender as the independent variable.

Finally, we analyzed zero scores to determine the impact of the intervention on prevalence of non-readers. The analysis of zero scores is particularly appropriate when the distribution of scores is skewed towards zero (i.e., is not in a bell-shaped curve). We conducted logistic regression analysis with random effects at the school level to determine if significant differences existed between the percentage of pupils registering zero scores (vs. non-zero scores) across each of the following: project school pupils versus comparison school pupils, project school boys versus comparison school boys, and project school girls versus comparison school girls. The equations included the presence or absence of a zero score as the dependent variable and school type as the independent variable.

Appendix C: EGRA for Grade 2 (Vietnamese with some English translation)

Room to Read Literacy Assessment

Individual Record Form   SRM

Child's Name:	Boy ☐ Girl ☐	Age:
Father's Name:	Mother's Name:	
How many brothers?	How many sisters?	How many siblings in the same school?
School Name:	Urban ☐ Sub-Urban ☐ Rural ☐	
RtR Project ☐ / Comparison School ☐	Grade:	
Name of Enumerator:	Date of Visit:	Time: Start _____ Finish _____

Score summary

Stage	Score	Description
1		Number of correct letters (100)
		Time taken (60)
2a		Number of correct familiar words (50)
		Time taken (60 seconds)
2b		Number of correct nonsense words (50)
		Time taken (60 seconds)
3		Number of correct words/syllable read (100)
		Time taken (60)
		Number of correct answers (4)

_____

Signature of Enumerator

_____

Signature of Supervisor

Introduction

Stages 1 to 3 are an individual, oral assessment. Fill in this record form as you work through the assessment with the child. The child needs to be at ease with you and to feel free to speak up. Start by asking his or her name and one or two questions about school or family, for example:

> *Hi, my name is _____. What is your name? (Do you have any brothers or sisters? What is your favorite game? etc.)*

Continue to introduce the test:

> *I am going to ask you some questions today. I'd like you to try your best. If at any time you want to stop, please let me know. Are you ready to begin?* (The child should nod their head or say "yes").
>
> If the child says "no" and they do not want to participate, the enumerator should take the child back to the classroom and select the next child on the attendance list.

Stage 1: Letter name knowledge

Show the child the letter card and introduce the exercise, as follows:

Here is a full page of letters. . Please point to each letter and tell me the names of as many letters as you can. For example, the name of this letter is /e/ (point to 'e'). (Italicized text to be read aloud by the enumerator.)

Let's practice: Tell me the name of this letter (point to 'Ô').
      (If the child responds correctly) Say: ***Good. The name of this letter is /Ô/***
      .
      (If the child does not respond correctly) Say: **The name of this letter is /Ô/.**

Let's try another one. tell me the name of this letter: n
      (If the child responds correctly) Say: ***Good. The name of this letter is /nờ/.***
      (If the child does not respond correctly) Say: **The name of this letter is /nờ/.**

When I say "begin," please name the letters as quickly and carefully as you can. Start here and continue this way. (Point to the first letter on the row after the example and move your finger across the first row). If you come to a letter you do not know, I will tell it to you. Otherwise, I will keep quiet and listen to you. Ready? Begin.

- Start the timer when the child reads the first letter.
- Mark any incorrect letters with a slash **/**.
- If the child self-corrects, puts a circle on the slash like this $\oslash$ then count it as correct.
- If the child hesitates for 3 seconds, mark as incorrect, and tell the child "next one" while pointing to the next letter.
- After 60 seconds, stop.
- Mark the final letter read with a bracket **]**

*Early stop rule: If the child cannot read a single letter in the first line, say, '**Thank you,**' stop this exercise, check the box at the bottom, then continue to the next exercise.*

Example: e Ô n

	1	2	3	4	5	6	7	8	9	10	
	a	O	r	B	v	e	U	l	s	x	*(10)*

If the child has had no success up to now, stop here.

	1	2	3	4	5	6	7	8	9	10	
	ô	u	p	E	T	n	k	m	Y	d	*(20)*
	t	h	A	c	OÂ	b	N	aâ	B	Ö	*(30)*
	g	V	H	aê	R	L	i	ñ	k	e	*(40)*
	P	d	EÂ	ñ	n	C	h	eâ	Q	H	*(50)*
	o	K	ô	G	oâ	p	S	AÊ	v	g	*(60)*
	E	b	AÂ	c	X	r	Ô	ö	s	l	*(70)*
	L	v	K	e	a	Ñ	b	C	ô	h	*(80)*
	q	T	OÂ	V	h	D	t	u	M	p	*(90)*
	l	L	A	b	y	Ô	x	d	ñ	eâ	*(100)*

If completed in less than 60 second, record the time here (in seconds):

Check this box if the exercise was discontinued because the child had no correct answers on the first line:

Stage 2a: Familiar word reading

Show the familiar word card and say:

Here are some words. I would like you to read as many as you can (do not spell the words, but read them). For example, this made-up word is: "cá" (point to "cá").

Let's practice: Please read this word: (Point to "sick")
   (If the child responds correctly) Say: ***Good. This word is "xiêm."***
   (If the child does not respond correctly) Say: ***This word is "xiêm."***

Let's try another one. Please read this word (Point to "thích thuù")
   (If the child responds correctly) Say: ***Good. This word is "***thích thuù***."***
   (If the child does not respond correctly) Say: ***This word is "***thích thuù***."***

When I say "begin," read the words as quickly and carefully as you can. Read the words across the page, starting at the first row below the line. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Ready? Begin.

- Start the timer when the child reads the first word.
- Mark any incorrect words with a slash **/.**
- If the child self-corrects, puts a circle on the slash like this $\cancel{\bigcirc}$ then count it as correct.
- If the child hesitates for 3 seconds, mark as incorrect, and tell the child "next one" while pointing to the next word.
- After 60 seconds, stop.
- Mark the final word read with a bracket **]**

*Early stop rule: If the child cannot read a single word in the first line, say, '**Thank you,**' stop this exercise, check the box at the bottom, then continue to the next exercise.*

Example: caù   xieâm   thích thuù

1	2	3	4	5
baø	oà	heø	baøi	vui	(5)
If the child has had no success up to now, stop here.					
meï	gioûi	möa	cha	uï	(10)
ñieän thoaïi	aø	naéng	nhanh nhaûu	muoán	(15)
thöông	vui veû	öø	uoáng	ngoan	(20)
yù	chôi	trong saùng	meøo	thænh thoaûng	(25)
lang	thích	chaêm chæ	oá	luoáng	(30)
chuoái	troàng	aï	thaønh phoá	treân	(35)
queâ	ngoït	phaáp phôùi	ñuøa	mong	(40)
thaày	choùi chang	oå	khoaùc	hoaøn thaønh	(45)
hoïc sinh	ôø	nhöõng	khoâng khí	cuûa	(50)

If completed in less than 60 second, record the time here (in seconds):

Check this box if the exercise was discontinued because the child had no correct answers on the first line: ☐

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Stage 2b: Nonsense word reading

Show the nonsense word card and say:

> *Here are some made-up words. I would like you to read as many as you can. Do not spell the words, but read them. For example, this made-up word is: "xeï"* (point to 'xeï).
>
> *Let's practice: Please read this word:* (Point to "döi")
>
>> (If the child responds correctly) Say: *Very Good. This made-up word is "döi."*
>>
>> (If the child does not respond correctly) Say: *This made-up word is "döi."*
>
> *Let's try another one. Please read this word* (Point to "loaùc")
>
>> (If the child responds correctly) Say: *Very Good. This made-up word is "loaùc."*
>>
>> (If the child does not respond correctly) Say: *This made-up word is "loaùc."*
>
> **When I say "begin," read the words as quickly and carefully as you can. Read the words across the page, starting at the first row below the line. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Ready? Begin.**

- Start the timer when the child reads the first non-sense word.
- Mark any incorrect non-sense words with a slash **/.**
- If the child self-corrects, puts a circle on the slash like this ⊘ then count it as correct.
- If the child hesitates for 3 seconds, mark as incorrect, and tell the child "next one" while pointing to the next non-sense word.
- After 60 seconds, stop.
- Mark the final word read with a bracket **]**

Early stop rule: If the child cannot read a single non-sense word in the first line, say, 'Thank you,' stop this exercise, check the box at the bottom, then continue to the next exercise.

Example: xeï   döi   loaùc

	1	2	3	4	5	
5	læ	taúm	heõ	khoam	caõ	*(5)*
If the child has had no success up to now, stop here.						
	khaïi	söôi	ñìm	suùm	veänh	*(10)*
	taõu	traúng	seánh	ghìa	kóa	*(15)*
	ñöûi	chueân	nöûi	röôm	khaõng	*(20)*
	löù	khieäc	vuoäng	choaûm	vem	*(25)*
	soaùnh	xaïnh	höôn	phua	nguïi	*(30)*
	mieâm	chịm	theäch	xuoâm	lôm	*(35)*
	reâng	leàm	kheï	hoaêm	phaúm	*(40)*
	khieäc	röûu	roeûm	nghịa	laäng	*(45)*
	mim	oam	töôïu	ngheûm	veã	*(50)*

If completed in less than 60 second, record the time here (in seconds): ☐

Check this box if the exercise was discontinued because the child had no correct answers on the first line: ☐

Stage 3: Oral fluency and comprehension

Show the passage card to the child and say:

> **_Here is a short story. I would like you to read it aloud and I will tell you when to stop. When you have finished reading, I will ask you some questions about what you have read. When I say start, you have to read the story as quickly and as carefully as you can. You may not be able to finish before I stop you, but that's ok. I will keep quiet and listen to you until you need help. Ready? Begin._**

- Start the timer when the child reads the first word.
- Mark any incorrect words with a slash **/**.
- If the child self-corrects, puts a circle on the slash like this 𝒫 then count it as correct.
- If the child hesitates for 3 seconds, mark as incorrect and and say "next one" while pointing to the next word.
- After 60 seconds, mark the final word read with a bracket **]**
- Allow the child to complete reading the sentence, then stop.

Early stop rule: _If the child cannot read a single word on the first line, say, '**Thank you,**' stop this exercise, check the box at the bottom, then continue to the next exercise._

Text	Syllables
On a summer noon, Dom the dog followed Binh to play in the garden.	12
(If the child has had no success up to now, stop here.)	
The garden was full of fruit and extremely large.	20
Binh was chasing a dragon fly and suddenly fell down in the hole.	33
Dom ran home as quickly as possible to get help.	43
When seeing uncle Nam, Dom embraced him and pulled on his trousers.	56
He quickly ran ahead and	72
Uncle Nam ran after him.	79
Reaching there, uncle Nam bent down and took Binh out of the hole.	89
He was crying and laughing and said thank you so much to Dom.	100

If completed in less than 60 second, record the time here (in seconds): ⬜

Check this box if the exercise was discontinued because the child had no correct answers on the first line: ⬜

When the child is finished reading:

- REMOVE the passage from in front of the child and ask the first question below.
- Give the child 15 seconds to answer the question, mark the child's response, and move to the next question. Only ask the comprehension questions that cover the lines of text that they actually read.
- When the child responds, mark whether the answers are correct, incorrect or no response (Incorrect = 0, Correct = 1, No response = 2). Answers do not have to be in the exact words given, but should convey the right idea.

> ***Now I am going to ask you a few questions about what you just read. Please listen carefully and answer the questions as best as you can.***

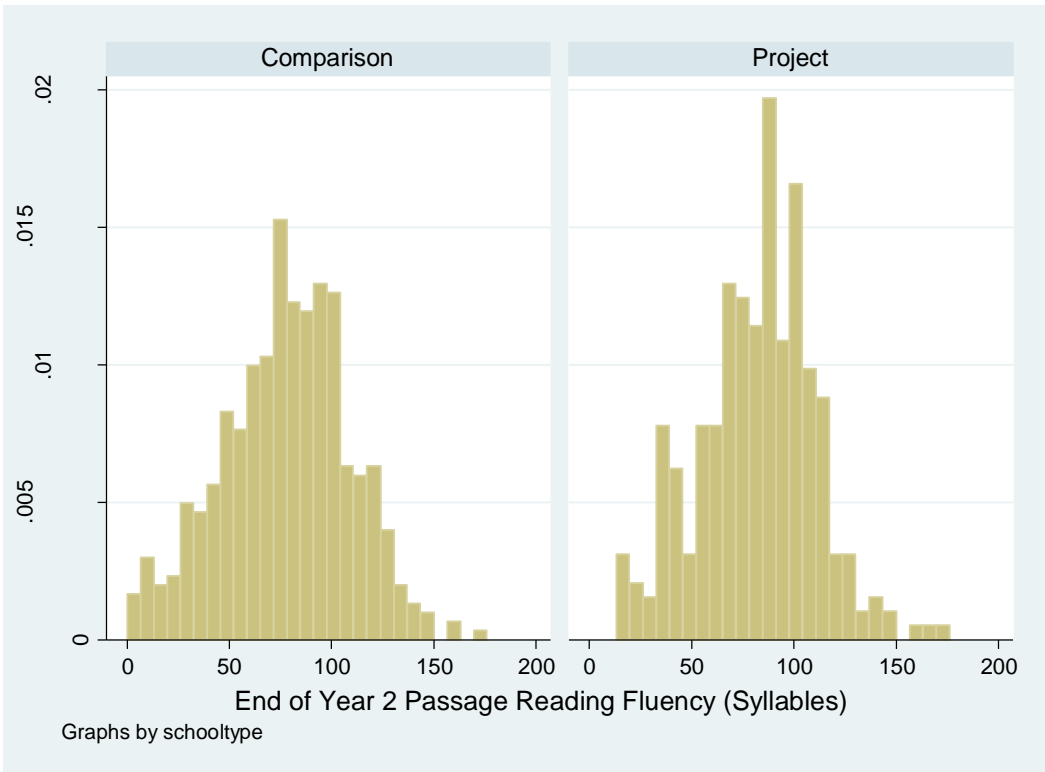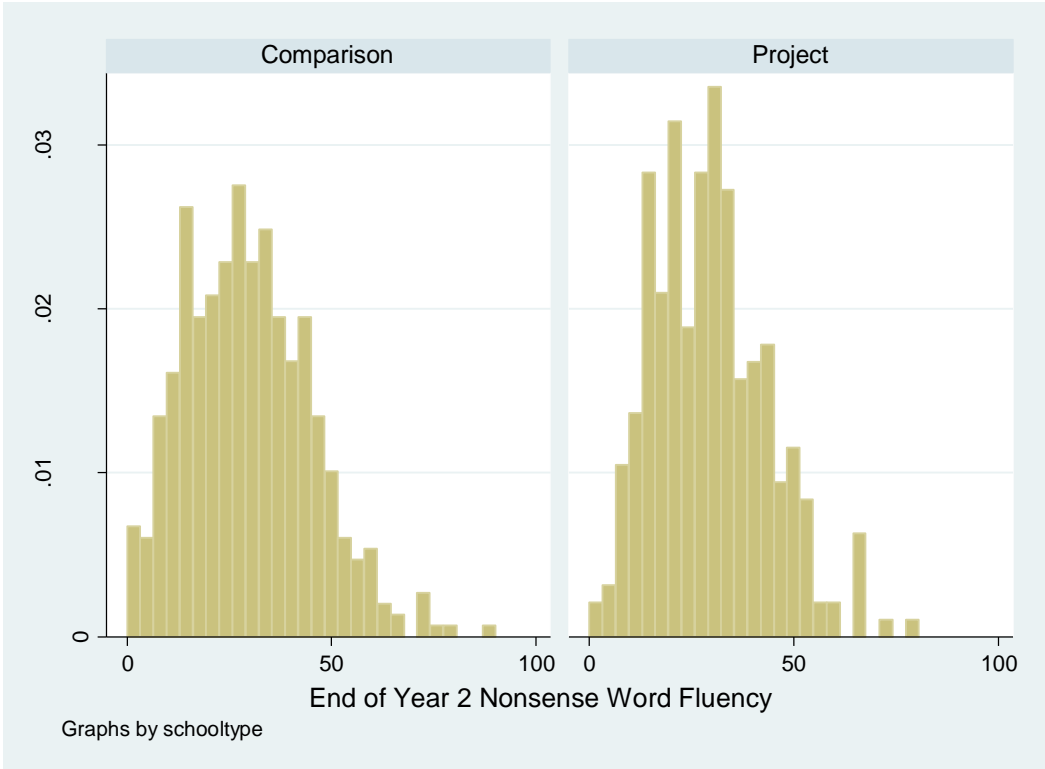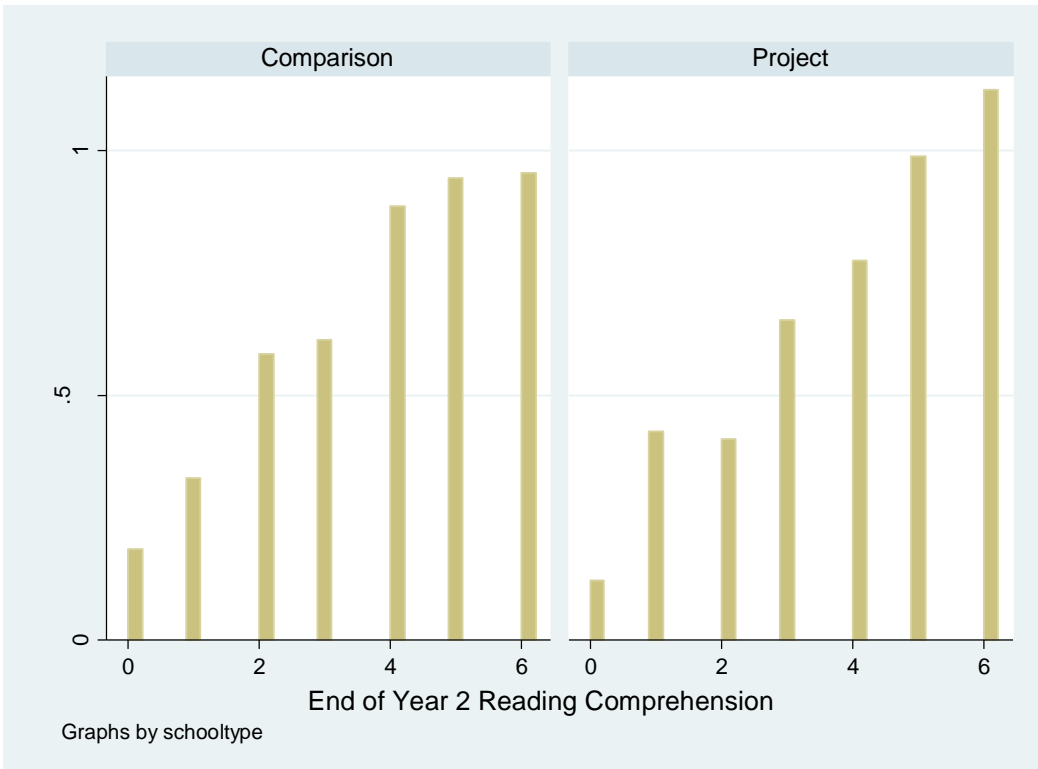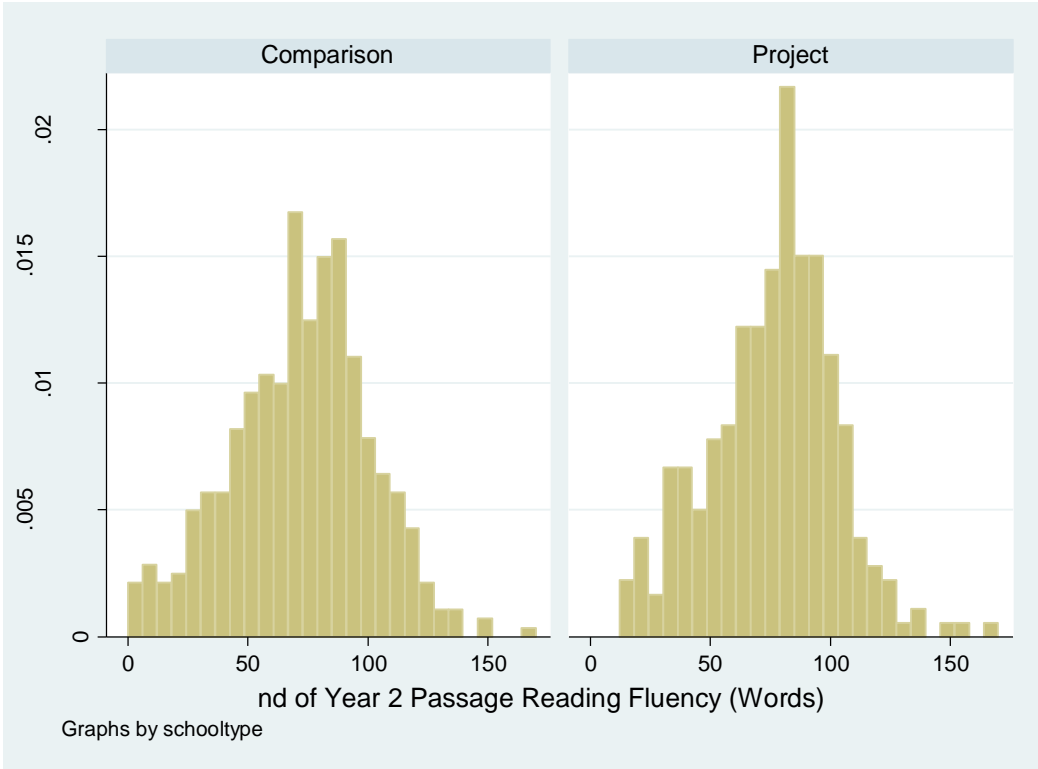| Questions	Answers	Incorrect (0)	Correct (1)	No response (2)
1. Where did Dom and Binh go play? (R)	In the garden			
2. What was Binh chasing when she fell down the hole? (R)	A dragonfly			
3. Where did Dom run to get help? (R)	He ran home			
4. How did Uncle Nam know that Binh needed help? (SI)	Dom pulled his trousers, Dom was pulling him, Dom ran quickly, Dom showed him the hole, etc.			
5. Who took Binh out of the hole? (R)	Uncle Nam			
6. How did Binh feel when she was saved? (SI)	She was happy, she was sad, she was thankful to Dom, etc.			
	Total:			

(R) Recall (the answer is in the story)
(SI) Simple Inference (the answer is not in the story, but it is relevant)
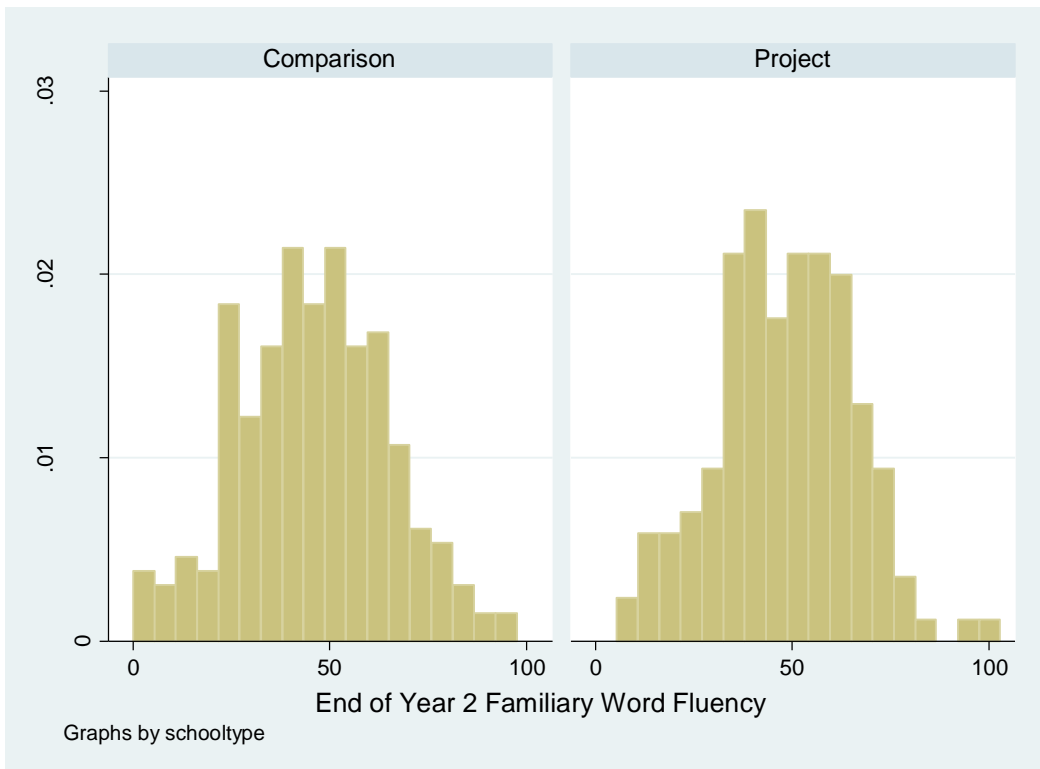*(II) Integration of ideas (the answer relates to what is known about characters in the passage)*

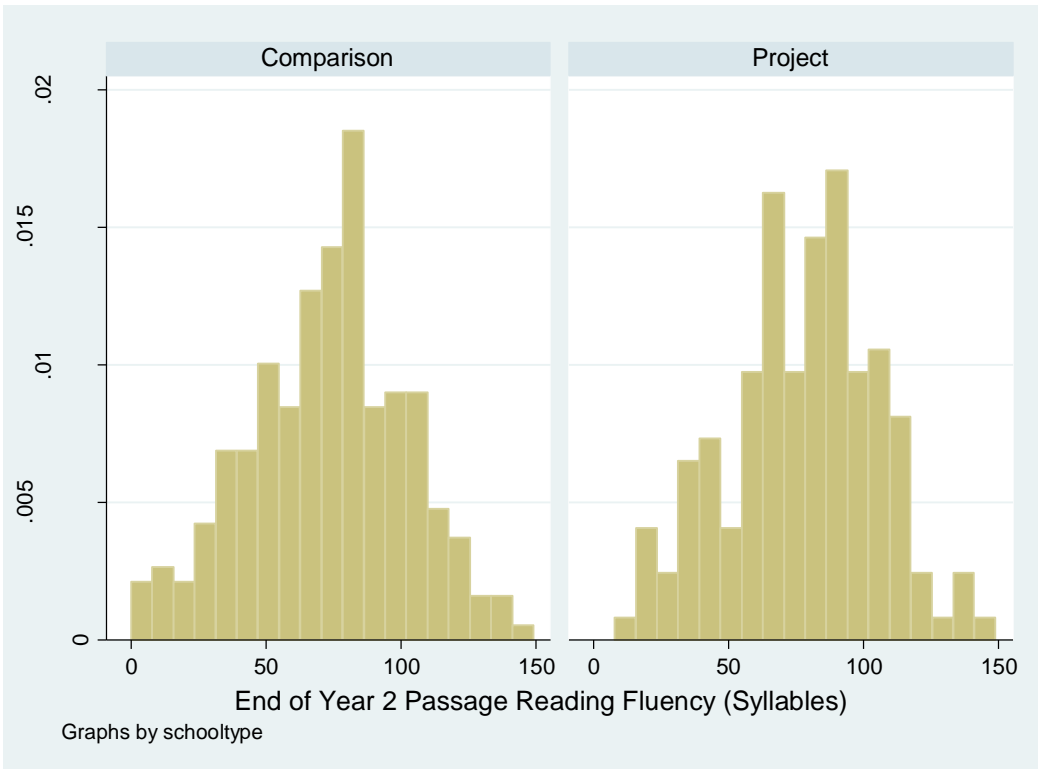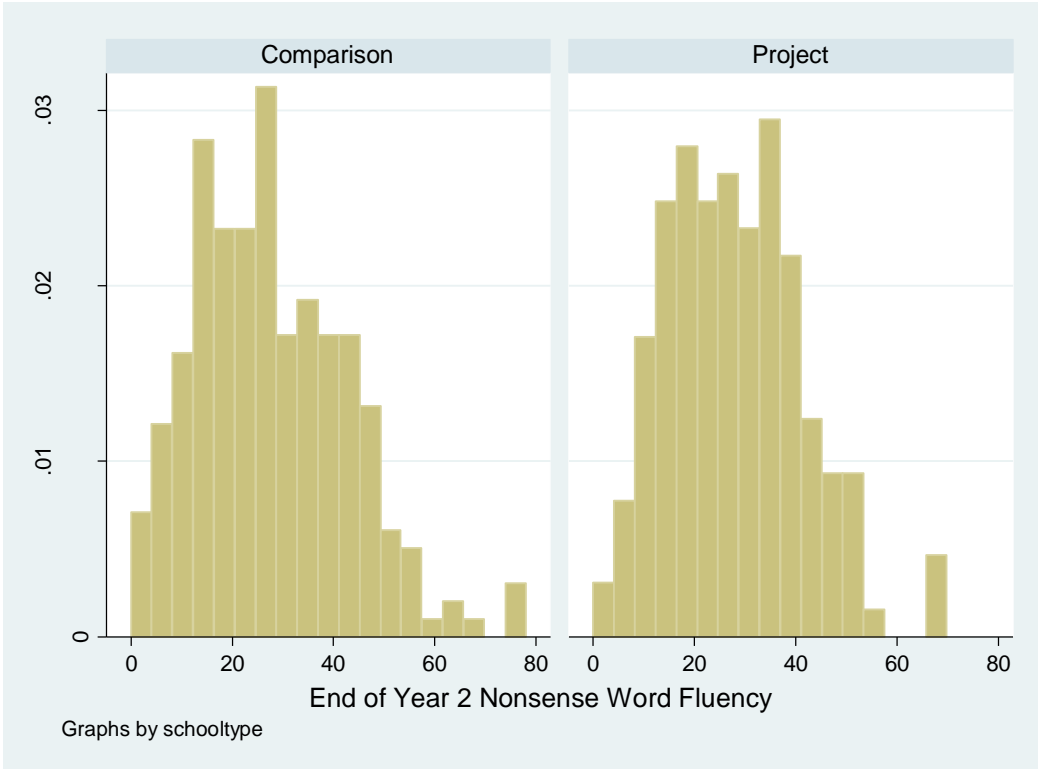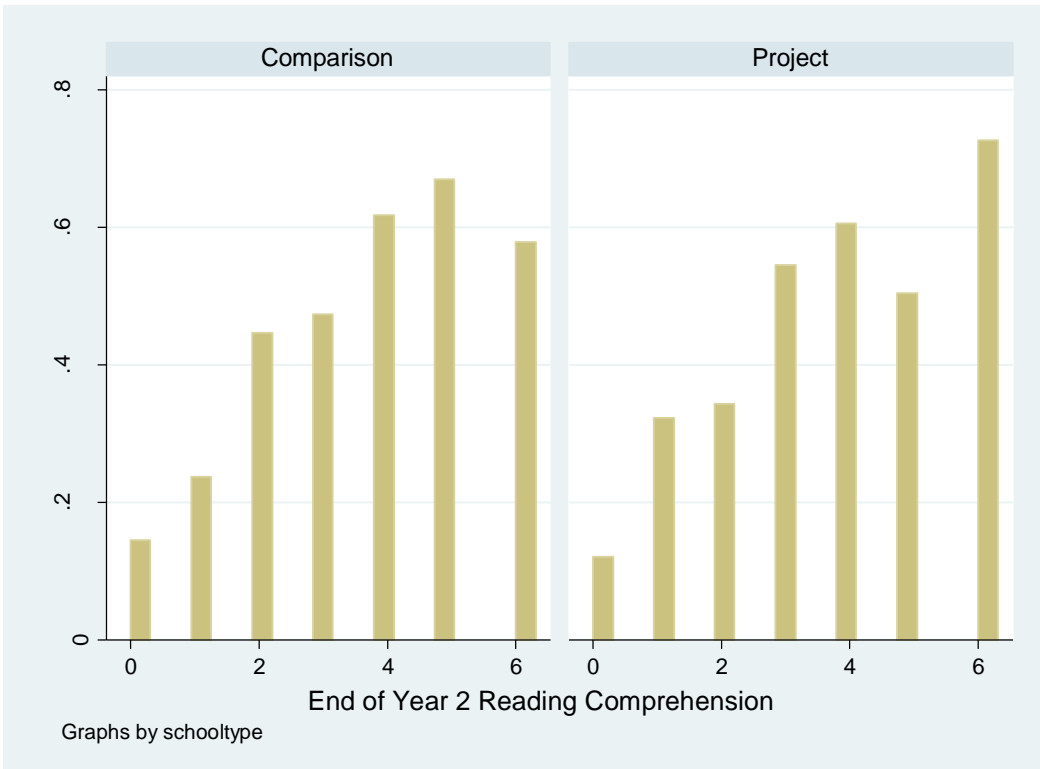# Appendix D: Grade 2 Score Distribution – All Pupils

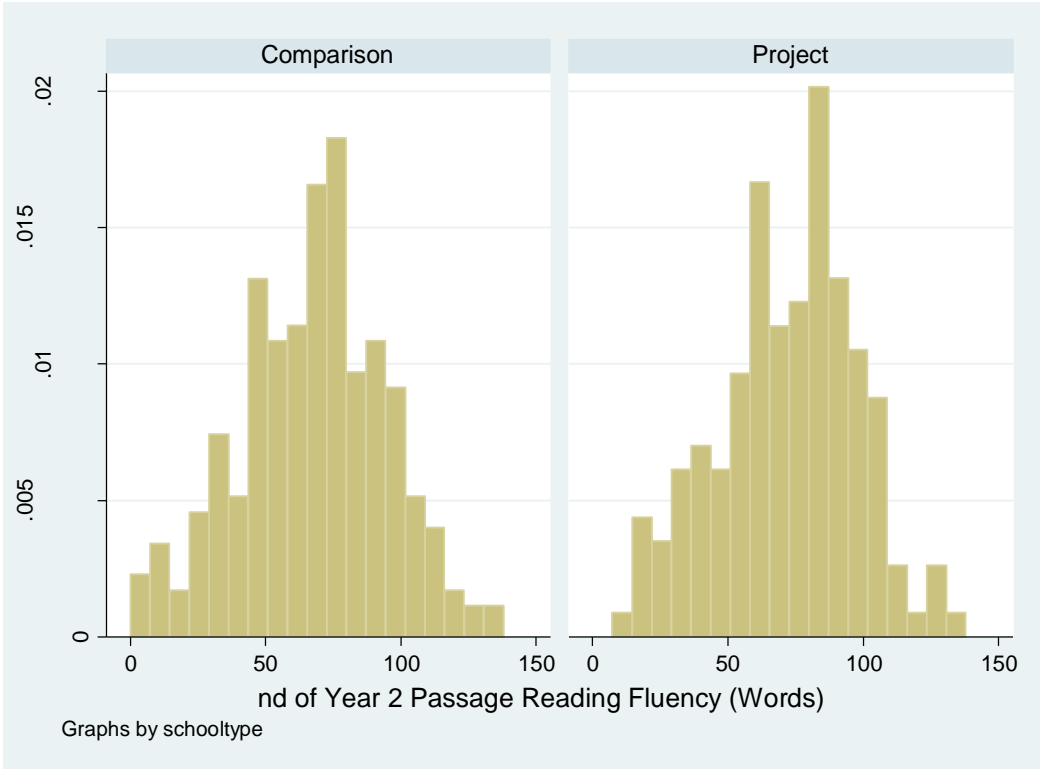

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

36
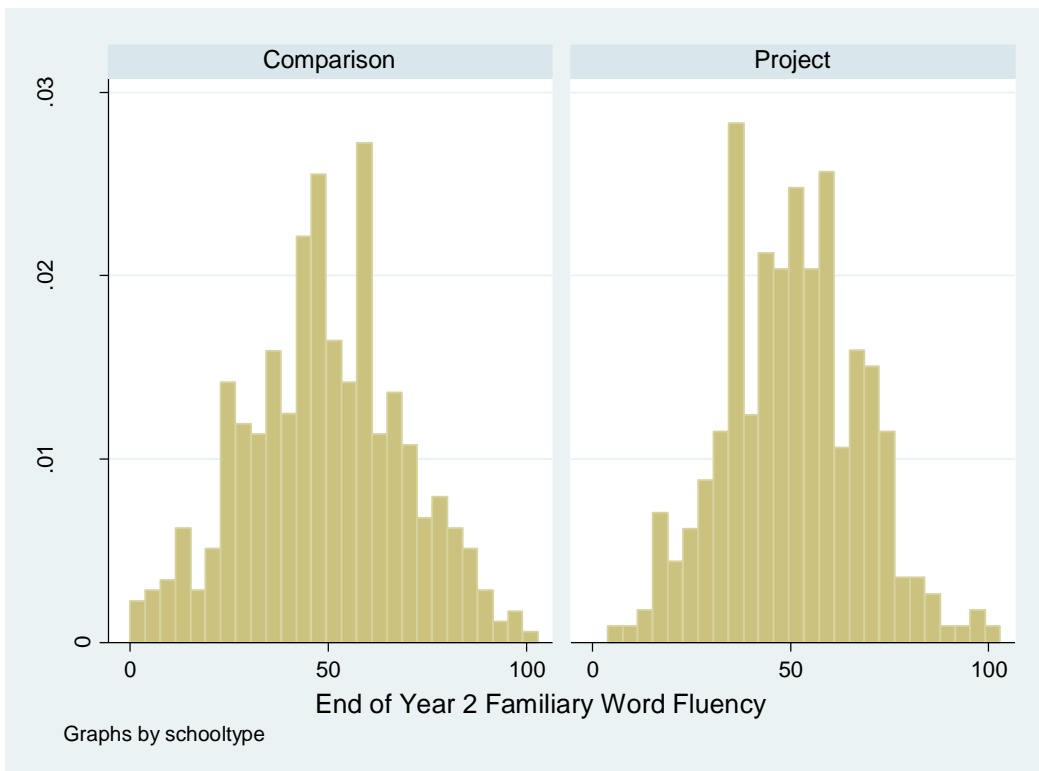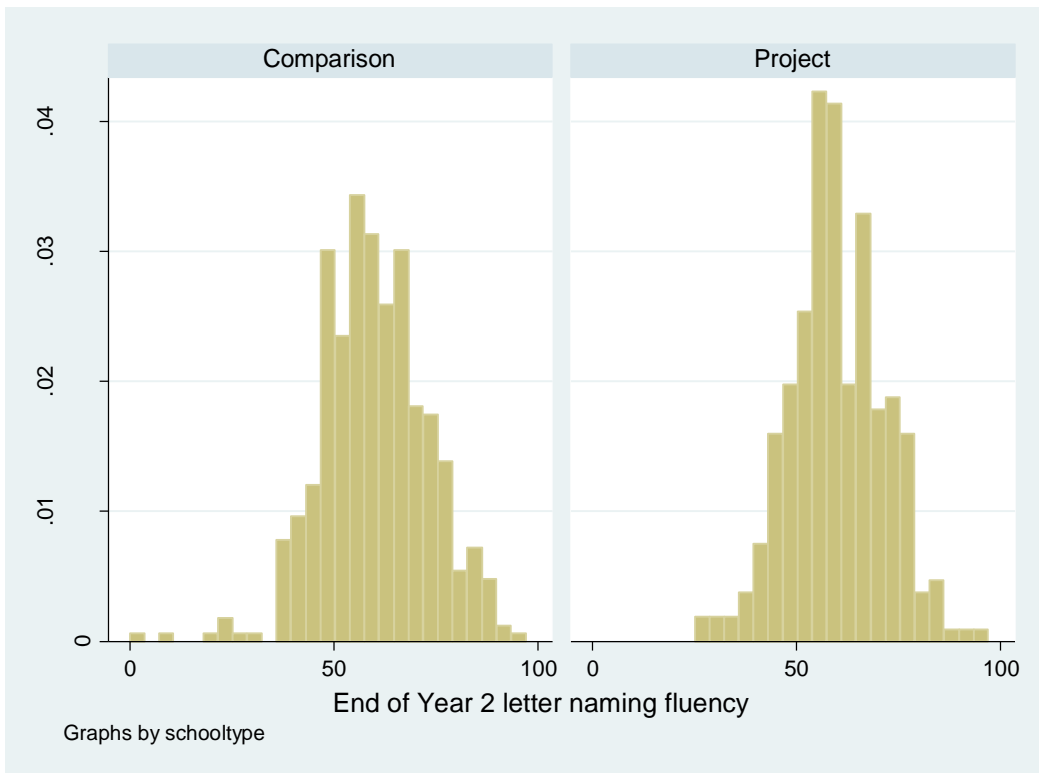
Appendix E: Grade 2 Score Distribution – Boys

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype

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Appendix F: Grade 2 Score Distribution – Girls

Graphs by schooltype

Graphs by schooltype

End of Year 2 Nonsense Word Fluency

Graphs by schooltype

End of Year 2 Passage Reading Fluency (Syllables)

Graphs by schooltype

Graphs by schooltype

Graphs by schooltype