WORLD EDUCATION

IMPROVING EARLY GRADE READING IN DISADVANTAGED DISTRICTS
PROJECT UPDATE & YEAR 1 EGRA RESULTS

PROJECT COVERAGE
» Achham, Bajura, Kalikot, Mugu
» 400 community schools
» 27,000+ students in Grades 1-3

PROJECT DURATION:
2016-2018

CORE PROJECT ACTIVITIES:
• Developing teachers' skills and knowledge
• Building more supportive systems through engagement of Head Teachers, School Management Committees, and local and national government education stakeholders
• Engaging parents and communities
• Providing quality teaching and learning materials

KEY RESULTS TO DATE:
• Increased proportion of students reaching targets for fluency and comprehension
• Improved teacher understanding and skills for teaching early grade reading
• Piloted tool for early detection of functional impairments and disabilities and supported teachers to address learning needs of all students
• Increased parents' understanding of and engagement in students' learning

PARTNERS:
» Seto Gurans National Child Development Services
» Humanity & Inclusion
» Kailali Integrated Rural Development and Research Centre (KIRDARC)

Under the Equity in Education in Disadvantaged Districts project funded by UNICEF, World Education implements programming to improve early grade reading (EGR) and math (EGM) achievement in four disadvantaged districts in Mid- and Far-Western Nepal: Achham, Bajura, Kalikot, and Mugu. After one year of programming, the project is showing impressive results, with students in intervention schools demonstrating greater learning gains than those in control schools.

The project (2016-2018) works in 400 schools, reaching more than 27,000 students and 983 teachers in some of Nepal's most remote areas. Simultaneously, World Education collaborates with education stakeholders at central government. In coordination with National Center for Education Development (NCED), Curriculum Development Center (CDC), and Education Review Office (ERO), and in alignment with National Early Grade Reading Program (NEGRP), World Education developed an EGR training manual and EGM learning materials with corresponding teacher activity book. The project also builds the capacity of district teams including School Supervisors & Resource Persons. World Education works with local-level partners—Kailali Integrated Rural Development and Research Centre (KIRDARC) and Seto Gurans National Child Development Services—to deliver EGR programming as well as with Humanity & Inclusion to improve learning opportunities and outcomes for children with disabilities.

CORE PROGRAM STRATEGIES

The project utilized the Read-Learn-Know program model, developed by World Education and the Rato Bangala Foundation. The model builds teachers' knowledge and skills, strengthens the government system to support Early Grade Reading initiatives and outcomes, mobilizes parents and communities to promote a culture of reading, and provides materials to make literacy instruction fun for children and easier for teachers.

EARLY GRADE READING INTERVENTIONS			
TEACHER PROFESSIONAL DEVELOPMENT	**SYSTEM SUPPORT**	**MATERIALS**	**COMMUNITY ENGAGEMENT**

– Teacher manuals
  – Training EGR (5 + 2 days)
  – Student-centered pedagogy
  – Components of reading
  – Activities for teaching reading
  – Lesson planning
  – Formative and summative assessment
  – Developing materials
  – Engaging parents and community
– Teacher mobile meetings
– Support from Reading Motivators
	– Head Teacher & School Management Committee orientations
	– Training of Trainers for government Roster Trainers
	– Capacity building for Resource Persons, District Education Office staff
	– Coordination with Department of Education, National Center for Education Development, Curriculum Development Center, National Early Grade Reading Program, EGRP (USAID/RTI)
		– Library corners
		– Literacy materials: letter and word cards, manipulatives, levelled readers, continuous assessment chart and rewards, classroom charts, activity books, literacy games
		– Learning material development with locally available materials
			– Outreach to parents of struggling and absent students
			– Parent engagement and awareness-raising meetings
			– Reading "melas" (fairs)
			– Engagement through continuous assessment benchmarking

ASSESSMENT METHODOLOGY

PURPOSE

A key monitoring and evaluation strategy of the project is measuring students' literacy skills development through the Early Grade Reading Assessment (EGRA), a research-based individual oral assessment that aims to assess the foundational literacy skills of children in Grades 1, 2, and 3.

EVALUATION DESIGN

The content in the EGRA questionnaire, which was approved by the Education Review Office, was based on the Grade 1–3 textbooks and reading materials used in project schools. The assessment included sections on paragraph reading, paragraph comprehension, story reading, and story comprehension, as well as mastery of consonants, vowels, simple words, joint words, matras, word meaning, and listening comprehension.

World Education and partners administered the EGRA to a students in grades 1-3 who were present on the day of testing in 32 project schools and 16 control schools that did not benefit from any intervention. Among project schools, 24 (referred to here as "continuing intervention") benefitted from three years' of interventions for under a prior project, and eight (referred to as "new intervention") participated in project activities only since 2016. In 2016, the baseline survey assessed 2,422 students. The 2017 ("Year 1") survey assessed 2,525 students, including 1,241 students who were also tested at baseline and whose scores can be paired. Assessments occur at the start of each academic year to assess learning from the prior year (thus "Grade 1" signifies a student tested at the very beginning of Grade 2).

INTERPRETATION: READING ACHIEVEMENT MATRIX

CWPM and comprehension are the most commonly reported EGRA results and serve as summary indicators of how well a child reads. The Government of Nepal targets 45 correct words per minute (CWPM) and 80% comprehension for students by the end of Grade 3. To help track progress with a single, unified measure for all early grades, World Education developed a Reading Achievement Matrix based the Grade 3 targets. The matrix divides students into four categories based on combinations of scores for fluency (CWPM) and comprehension.

Achievement Level	LEVEL TARGETS			
		Grade 1	Grade 2	Grade 3
Children who read fluently with full comprehension	CWPM	25+	35+	45+
	Comprehension	3+/6	4+/6	5+/6
Children who read with increasing fluency and comprehension	CWPM	15-24	25-34	35-44
	Comprehension	2+/6	3+/6	4+/6
Children who read slowly with limited comprehension	CWPM	1-14	1-25	1-34
	Comprehension	1+/6	2+/6	3+/6
Children who have not yet begun to read	CWPM	0	0	0
	Comprehension	0	0	0

KEY RESULTS & FINDINGS

❶ PROJECT SCHOOLS HAVE BETTER READING ACHIEVEMENT AND IMPROVED MORE THAN CONTROL SCHOOLS.

Students from both intervention groups performed better than students from control schools, both in terms of absolute results and in terms of improvement from baseline.

By multiple metrics—reading achievement, oral reading fluency, reading comprehension, individual student improvement scores, and component skill scores—students in intervention schools performed better than students in control schools.

As Figure 1 shows, greater proportions of students in both interventions groups are reading at grade level (fluently and with full comprehension) compared to the control group. The intervention schools also showed a greater improvement from baseline to Year 1, with larger increases in the proportion of students reading at grade level. Over the course of the year of intervention, project schools also decreased the proportion of students who could not read at all, but in control schools, the proportion increased.

Continuing Intervention schools that benefitted from intervention under a previous project showed greater achievement and year-on-year progress than New Intervention schools, where teachers had had just one year of practice in implementing new techniques. This finding is in line with World Education's experience in other projects that the impacts of early grade reading interventions take multiple years to fully manifest.

Figure 1: Proportion of students in Year 1 compared to Baseline who Read fluently with full comprehension and Have not yet begun to read:
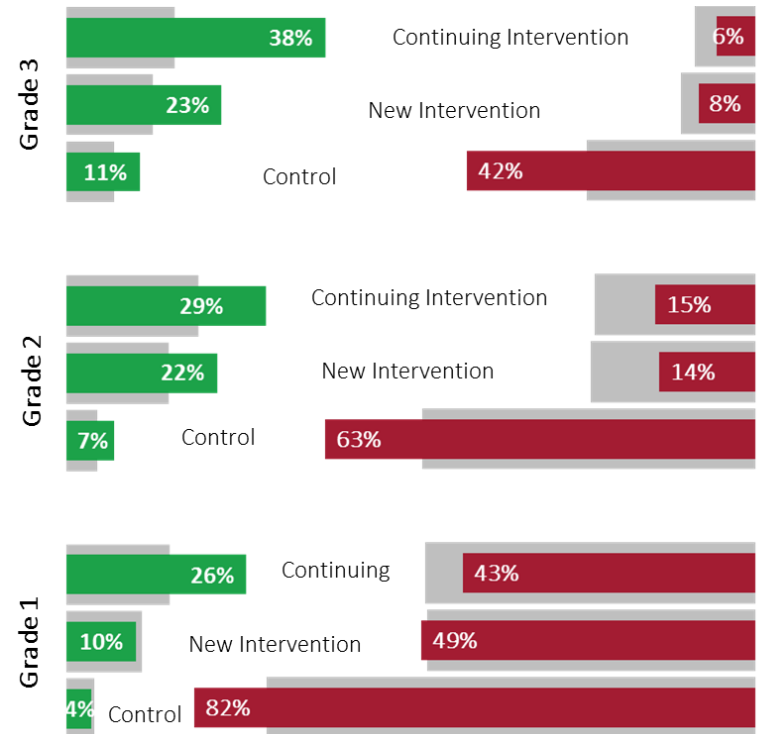

❷ THERE IS A STATISTICALLY SIGNIFICANT POSITIVE IMPACT ATTRIBUTABLE TO PROJECT INTERVENTIONS.

One method for evaluating the impact of the project is to calculate the effect size using the CWPM gain scores for students tested both at baseline and at Year 1 (n=1,241). Using the single metric of individual students' improvement over the course of a year in school (either grade 2 or grade 3), evens the playing field for comparison in spite of an imperfectly matched control group.

On average, students in Control schools improved their fluency scores by just 7.9 correct words per minute after a year of schooling, whereas students in New Intervention schools added an average of 12.8 correct words to their baseline scores and students in Continuing Intervention schools improved by an average of 16.2 CWPM.

Independent samples t-tests were conducted to compare change scores between groups and found the difference significant in each case (p<.001 for Phase I vs. Control; p=.001 for Phase II vs. Control, and p=.021 for Phase I vs. Phase II).

Table 1: Mean fluency change scores for students tested at twice

Intervention Level	Mean Change Score (CWPM)	Number Students	Standard Deviation
Continuing Intervention	16.2	656	18.1
New Intervention	12.8	189	17.6
Control	7.9	396	14.8

There were statistically significant differences in year-on-year improvement in CWPM scores between students attending intervention schools and those attending controls. Cohen's *d* shows a medium effect (*d*=0.5) of the intervention for students at Continuing Intervention schools, and a small effect (*d*=0.3) for students at New Intervention schools. These effect sizes confirm that the reading gains can be attributed to the intervention.
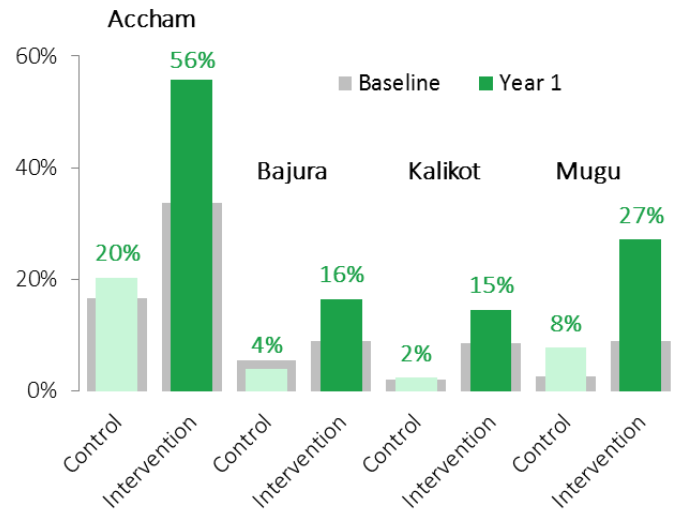
Key Results & Findings, continued

❸ A variety of factors influence reading

As might be expected, results varied in relation to a number of different factors. The factors shown to have a significant relationship to reading fluency (CWPM) when controlling for other variables include:

» **District:** Overall, Achham showed significantly better results than the other three districts, with Mugu's results coming in second best. Bajura and Kalikot had the lowest results. However, in all districts, project schools showed greater improvement than control schools.

» **Language:** The survey sample did not produce consistently strong data on students' language, but there is evidence that speaking Nepali provided a slight advantage as compared to mother tongue.

» **Father's occupation:** Children of fathers working in higher-skilled jobs (and who are thus likely more educated) showed better reading performance than children whose fathers worked in agriculture or were deceased. (There was not enough variation in the data to test the impact of mother's occupation.)

» *Early Childhood Development:* ECD experience generally boosted to the reading scores of students in project schools, and more so in Continuing Intervention schools, which had benefitted through ECD interventions over multiple years through the Child Friendly Schools Initiative.

Figure 2: Proportion of students in Year 1 compared to Baseline who Read fluently and with full comprehension
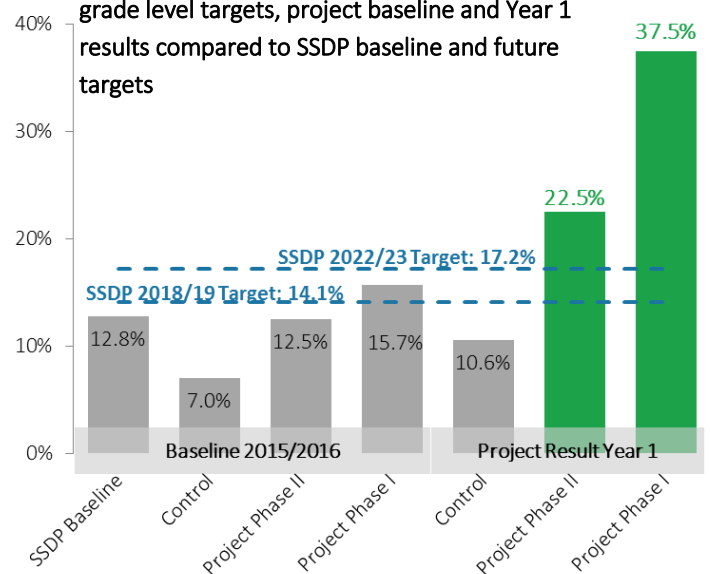
» **Gender:** Overall, differences between boys and girls were small but significant, with boys scoring better than girls overall.

» **Caste / Ethnicity:** Overall all caste groups had similar proportions of children reading fluently and with full comprehension: Dalit with 20%; Chhetri with 23%; and Brahmin with 19%. However, when controlling for other factors, being Dalit predicted had slightly lower CWPM scores.

❹ Overall, project schools show strong results compared to SSDP targets and EGRP Baseline

The government's School Sector Development Plan (SSDP) provides national targets for the proportion of Grade 3 students achieving 45 CWPM and 80% comprehension. The SSDP baseline for 2015/2016 found 12.8% of students reading at grade level, which is similar to the proportion of students in project schools at baseline from the same year. SSDP targets for the proportion of students reading on grade level increase to 14.1% for 2018/2019 and 17.2% for 2022/2023[1]. After just one year of intervention, though, project schools have are already surpassing these targets, as shown in Figure 3.

Similarly, while Grade 3 fluency (CWPM) scores at baseline were similar to found for the project region and lower socio-economic quartiles (23.5-28.4) in the USAID-supported nationally representative EGRA survey[2], scores after one year are much higher: 32.6 and 39.6 for New and Continuing Intervention groups, respectively.

Figure 3: Proportion of Grade 3 students meeting grade level targets, project baseline and Year 1 results compared to SSDP baseline and future targets

[1] Ministry of Education: SSDP Book English Final July 5, 2017
[2] Sitabkhan, Y. and DeStefano, J., (2014). *Education Data for Decision Making (EdData II): Nepal Early Grade Reading Assessment (EGRA) Study.* Washington, D.C.: USAID.