SREE Abstract

Submitted by Marcia Davidson, mdavidson@fhi360.org

with co-author Nina Menezes-Cunha, ncunha@fhi360.org

Impact from a one-day intensive school support visits during a primary grade reading intervention in Ghana

Context: The USAID Ghana Partnership for Education *Learning* project is currently completing its final year in a 5-year early grade reading program. A reading intervention of daily 60-minute lessons in Pre-primary, grade 1 and 2 was developed in partnership with the Ghana Ministry of Education and implemented in 11 local Ghanaian languages in over 7,200 schools in 100 districts in 10 regions of Ghana. The purpose of the project was to teach young primary grade children to read in their local language. The mid-line Early Grade Reading Assessment (EGRA) indicated significant gains in reading achievement in comparison to control schools, but with a significant number of children scoring 0 on all EGRA tasks. In response to a concern that there were too many children not benefitting sufficiently from the program, the project technical team developed an intensive support visit protocol to provide support to schools in addition to the prescribed program weekly school-based classroom teacher coaching, termly district-led classroom teacher coaching, and school-based inset meetings.

Purpose/Research Questions: The purpose of the study was to examine the impact of one intensive support visit, designed to provide targeted support in coaching, school-based in-service meetings, and daily remediation focusing on skills taught in the project reading intervention with a focus on grade 2 classrooms.

Participants: Participants in this study included the grade 2 classrooms in the 1027 schools selected based upon a set of four criteria listed below from the 7200 schools in the USAID *Learning* project.

Research Design: Four criteria were used to select schools to be targeted for a visit from a total of 7200 schools . These criteria were established utilizing monitoring data collected twice each term per school by trained Ghana Education circuit supervisors. The targeted intensive support visits focused primarily on grade 2 classrooms. The criteria included the following : 1) the grade 2 teacher at the school reported attending a project led training workshop on how to implement the reading program in Term 1; 2) the grade 2 teacher reported having at least one School-based Inservice meeting (meetings required by the Ghana Education System) in Term 1; 3) the grade 2 teacher reported having at least one coaching session by the head teacher or curriculum lead in Term 1; and 4) the school median score on a word identification task that was included in a set of academic progress monitoring tasks, the PACE, Progress Against Curriculum Expectation, administered twice per term to 6 randomly selected pupils. There was a total of 12 items administered by the circuit supervisor at the end of Term 1 between 25% and 67% (inclusive of 25% and 67%). After applying the first three criteria to the initial sample of 7200 schools in Term 1, we obtained a final sample of 4344 schools. Of those, 1027 schools were selected to the

receive the expanded support after the fourth criterion was applied. The remaining 3317 schools were not selected to receive intensive support (872 scored below the 25% cutoff, and 2445 scored above the 67% cutoff). Out of the 1027 treatment schools, 109 schools were not visited. In a follow up to learn more about these 109 schools, monitoring coaches reported that schools not visited were not reachable due to heavy rains and flooding during the time span for the intensive support visits.

The intervention was a one-day intensive support visit conducted by the project's National Core Trainers after a one-day training. The training focused on coaching skills, school daily remediation sessions, biweekly school-based inset sessions, and teachers' use of classroom assessment data to guide instructional decisions.

Data Collection and Analysis: Data were collected on tablets during twice termly scheduled circuit supervisor monitoring visits during project implementation. Because we used a defined set of criteria and a cut-off to select the schools who would receive the extra support visit, we evaluated the results of the intensive support visit using a regression discontinuity design model (RDD). We looked at schools around the bottom end of the cut-off and the upper end of the cut-off. To account for the 109 schools not visited, we employed a fuzzy regression discontinuity design to access the effect of the expanded support on student achievement. Specifically, we investigated if the intervention was successful in increasing student's PACE score on the words, syllabus and sentences tasks.

Findings: Our findings show positive effects ranging from 7 to 15 percentage points for Term 2 students, around the upper cutoff, for the three outcomes investigated here (see Table 1). No effects were found for the lower cutoff or for Term 3 students. The magnitude of the effect decreases as we increase the bandwidth investigated around the upper cutoff.

Table 1. Fuzzy regression discontinuity regression results – upper and lower cutoff

	Syllable		Word		Sentence	
	Upper Cut off	Lower Cut off	Upper Cut off	Lower Cut off	Upper Cut off	Lower Cut off
Term 2	7.33***	-2.40	8.99***	-0.34	15.48***	4.39
	(2.35)	(3.22)	(2.81)	(3.57)	(3.06)	(3.53)
Term 3	0.96	-1.11	0.00	-4.36	5.05	-0.65
	(2.58)	(4.70)	(.)	(5.49)	(3.82)	(6.24)
Observations	36761	36761	36761	36761	36741	36741

* $p<0.1$ ** $p<0.05$ *** $p<0.01$

Conclusions: The results demonstrate significant improvement in student academic performance after only one additional support visit. This increase suggests that schools can make remarkable improvements with targeted and limited support, when that support provides practical solutions to the challenges schools face in implementing the intervention.   Results were also somewhat unexpected in that only those schools with scores at the upper end of the bandwidth based upon

the criteria for selection demonstrated significant improvement. Those schools at the lower end did not look different from similar schools not visited.

One possible explanation for the finding at the upper end of is that schools at the lower end may be experiencing more complex challenges such as poor leadership, lack of commitment to teaching the reading curriculum, poor access and remote school settings, high student absenteeism, or lack of community support for schools. At the upper end of the group, schools selected had demonstrated some success as students were showing modest academic improvement and head teachers may be more committed to effective instructional support to ensure fidelity of program implementation. For these schools, one visit may have provided the boost or bootstrapping mechanism necessary to move these schools from at-risk status to successful implementers.

References

Angrist, J.; Imbens, G.; Rubin, D.. 1996. Identification of causal effects using instrumental variables. *Journal of the American statistical Association*, *91*(434), 444-455.

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukerji, S., Shotland, M., & Walton M. (2017). From proof of concept to scalable policies: Challenges and solutions, with an application. *Journal of Economic Perspectives, 31*(4), 73-102.

Hattie, J. & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112.

Imbens, G. and Kalyanaraman , K. 2009. Optimal Bandwidth Choice for the Regression Discontinuity Estimator. Working paper 14726. Cambridge, MA: National Bureau of Economic Research.

Nichols, A. 2007. rd: Stata Module for Regression Discontinuity Estimation.

Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*. MIT Press: Cambridge, Massachusetts.