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Latin America and the Caribbean (LAC) Reading Evaluation Contract

Final report

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I. Introduction

Latin America and the Caribbean Reads (LAC Reads)—an initiative funded by the United States Agency for International Development (USAID)—worked to improve both literacy and access to education in conflict areas, especially among groups of disadvantaged children across the Latin America and Caribbean Regions. Mathematica led one component of the LAC Reads project, the LAC Reading and Education Evaluation Services project, between September 2012 and May 2021. Under this $21.5M project, Mathematica carried out multiple impact and performance evaluations, cost-effectiveness analyses, and other evaluation activities to support learning around USAID's investments in education in the LAC region. Mathematica also carried out capacity building events on impact evaluation design and findings for in-country stakeholders in addition to capacity building of local researchers and data collection partners over the course of each evaluation. In total, Mathematica produced 46 reports which have been uploaded to the Development Executive Clearinghouse (DEC). Appendix 1 provides a tracker, organized by evaluation or activity, with all related reports and their associated link on the DEC. Further supporting the communication of evidence to stakeholders, in addition to reports, Mathematica presented interim and final findings to in-country and USAID/Washington stakeholders, and at professional meetings such as the annual conferences of the Comparative International Education Society (CIES) and Society for Research on Educational Effectiveness. LAC Reads also produced a set of policy briefs focused on maximizing learnings and disseminating the findings and lessons learned designing and implementing impact evaluations of early grade reading (EGR) programs to implementers, funders, and education researchers. In this final project report we summarize each of the activities under LAC Reads and where relevant, the major findings of the evaluations.

II. Guatemala and Peru—*Leer Juntos, Aprender Juntos*

Program overview. The *Leer Juntos, Aprender Juntos* program adapted Save the Children's Literacy Boost approach to improve early grade reading by incorporating instruction in the mother tongue while adjusting to the linguistic background of teachers and students *Leer Juntos, Aprender Juntos* was implemented by Save the Children in communities with linguistically diverse and socioeconomically disadvantaged populations in the Quechua-speaking region of Apurímac in Peru and the K'iche'-speaking region in Guatemala during the 2013-2016 school years. The program focused on training teachers in mother tongue or Spanish reading instruction techniques and the five core skills of reading (alphabet knowledge, phonological awareness, vocabulary, fluency, and comprehension). The program also had a complementary community component that included, among other things, reading camps and varied reading activities led by community volunteers; peer-assisted reading time with reading buddies; and parent and community workshops to encourage the creation of more opportunities for children to practice reading outside of school.

Evaluation design: Mathematica designed and implemented a three-arm randomized controlled trial (RCT) to assess impact and cost-effectiveness of the program. Nearly 300 eligible schools were assigned to one of three groups. Group A received both the in-school and community components, Group B received only the in-school component, and Group C (prevailing practice) did not implement the *Leer Juntos, Aprender Juntos* program components. The Group C prevailing practice varied by country. In Guatemala, the Ministry of Education's approach emphasizes instruction on foundational reading skills leading to reading fluency and

comprehension, which is similar to the approach of *Leer Juntos, Aprender Juntos*. In Peru, the prevailing practice approach emphasizes communication and the use of text to help students understand, speak, read, and write. Teachers in Group C schools in both Guatemala and Peru reported receiving coaching and training from Ministry of Education counterparts, although not always at the same levels of support provided by *Leer Juntos, Aprender Juntos.* The study design enabled Mathematica to examine the impact of the full intervention, as well as the impact of the community and in-school components. We also collected qualitative data to better understand program implementation, successes and challenges, and help us interpret the impact evaluation findings. Mathematica carried out baseline data collection in Guatemala and Peru in 2013 and 2014, followed by midline and endline data collection activities in 2015 and 2016 respectively. Within each school, we followed two cohorts of children from first grade through the end of third grade, for approximately 2.5 years of exposure to the program.

Major Findings: The evaluations found that the in-school component had a positive impact on students' reading skills in Peru but not in Guatemala. In Peru, the in-school component had favorable impacts on some of the reading outcomes we measured, and these were largely driven by improvements in girls' reading skills. The effect sizes, ranging from 0.19 to 0.31, are comparable to those of other interventions in developing countries aiming to improve foundational reading skills and reading comprehension in the early grades. The community component of the intervention did not have a measurable impact on students' reading skills in either country, perhaps due to the implementation challenges associated with recruiting and retaining volunteers to carry out this component. The estimated cost-effectiveness of the in-school component was $136 per student per 0.10 standard deviation increase in emergent reading skills.

III. Honduras—*EduAcción* Promising Reading Intervention

Program overview. The EducAcción Promising Reading Intervention (EducAcción-PRI) was designed to improve Honduran students' early grade reading skills by using assessments to better inform instruction. Building on over 10 years of investments in strengthening the use of assessment in Honduras, USAID partnered with the American Institutes for Research (AIR) to implement the EducAcción-PRI model in new sites during the 2015 and 2016 academic years. AIR's intervention focused on providing pedagogical advisors, workshops, and trainings to support principals and teachers to use and interpret end of grade (EOG) assessments. This support also helped principals and teachers develop and carry out action plans based on needs identified in the EOG assessments. EducAcción-PRI also provided additional support for monthly formative assessments (FA) which included provision of printed assessment materials, teacher training and coaching.

Program design: Mathematica designed and implemented a three-arm RCT to evaluate the impacts of providing print materials and pedagogical support for the use of formative and end-of-grade assessments on teaching and learning in reading and mathematics. The study design enabled Mathematica to examine the combined impact of formative and end-of-grade assessments as well as the impact of end-of-grade testing only. Mathematica randomly assigned 180 schools to each of the arms being investigated; 60 schools offering EOG and FA support, 60 schools providing EOG support only, and 60 schools providing no EOG or FA support. To better gauge the effectiveness of the model in different settings, the evaluation selected two predominantly rural states (Lempira and Santa Barbara) and two urban areas (Tegucigalpa and

LaCeiba) to study. Mathematica collected quantitative data between 2014 and 2016 as well as qualitative interviews to assess implementation and provide important context for the evaluation findings.

Major findings: After two years, Mathematica found that both the EOG and FA components of EducAcción led to improvements in math and reading test scores. In addition, the evaluation found that EOG assessment support was more effective in urban schools, while support for monthly FAs was more effective in rural schools. In terms of cost-effectiveness, both support for EOG and monthly FAs cost between $52 and $57 per student per 0.1 standard deviations of increased student learning. These estimates are in the lower range of cost-effectiveness compared to other education interventions to improve student performance that have been rigorously evaluated in LAC.

IV. Nicaragua—*Espacios para Crecer*

Program overview: *Espacios para Crecer* (EpC) was an intensive after-school program designed to support disadvantaged, primary school-age children by providing additional learning time to children who are at risk of poor performance, are having difficulties at school, have dropped out of school before completing grade 3, or have never attended school. DevTech Systems Inc. and its partners adapted and implemented the EpC intervention in Nicaragua's Southern Caribbean Atlantic Autonomous Region (RACCS) as a part of the USAID/Nicaragua-funded Community Action for Reading and Security (CARS) program which was implemented between 2013 and 2020. The EpC program offered training and facilitators to make learning fun, provided mentoring and feedback to facilitators, adapted reading materials to the local context and distributed books and other materials for children.

Evaluation design. Mathematica designed and implemented a two-arm RCT to assess the impact of the EpC intervention on children's reading skills. In the treatment group, children were exposed to the EpC intervention, and in the control group, children were not exposed to EpC after-school activities. In this design, we randomly assigned different units—children or communities—to the treatment or control group depending on the size of the community. In larger communities (with more eligible children), we randomly assigned children. We selected a total of 166 large communities. In communities with fewer children, it was not possible to form two separate groups, so the communities were the unit of random assignment, with all children in the community assigned together to the treatment or control group. In these smaller communities we evaluated 1,405 children. The evaluation followed two cohorts of students for approximately 1.5 years of exposure to the EpC program. We collected base-year data to measure children's literacy skills in 2015, but we could do so in only one of the cohorts and, in some cases, after exposure to the intervention had begun. We collected follow-up data for each cohort (in 2016 for Cohort 1 and in 2017 for Cohort 2).

Major findings. After about 1.5 years, evaluation results showed that the experimental design worked well in small communities, but not as well in larger ones, due to lower take-up of and compliance with the program. For small communities, EpC had positive impacts on children's reading outcomes, but not on school attachment or social-emotional outcomes. The impacts were statistically significant for girls and for children who were out of school at intake, but not for boys and children who were already enrolled in school. Cost-effectiveness estimates for the EpC intervention in small communities ranged from $45, at steady state, to $358, including startup costs, per 0.1 standard deviations in literacy score improvement.

V. Peru—*Amazonía Lee*

Program overview. *Amazonía Lee* was designed to reduce gaps in the reading achievement of students in the Peruvian Amazon. It focused on children in grades 1 through 3 and used a balanced approach to reading instruction that incorporates best practices from the National Reading Panel. USAID partnered with the two Regional Education Directorates as well as with technical assistance provider Universidad Peruana Cayetano Heredia to implement the program in the two Amazonian regions of San Martín and Ucayali. These regions were selected because they had historically marked gaps in students' reading achievement compared to the national average. The evaluation focused on the school and community capacity-building activities which included teacher training and coaching, provision of materials, and community engagement events. The program was implemented between 2014 and 2017.

Evaluation design. Mathematica designed and implemented a two-arm RCT to examine the impact on teaching practices and student literacy skills. The evaluation randomly assigned a total of 270 schools to one of two groups in two regions. The treatment group in both regions received *Amazonía Lee's* balanced approach to teacher training and coaching, and tailored materials. The control group in San Martín received the Ministry of Education's *Soporte Pedagógico* communicative textual approach to teacher training and coaching, and supporting materials, as well as remedial tutoring. In Ucayali, control schools received the usual services provided by the Ministry of Education (communicative textual approach) without teacher training, coaching, or additional materials. The evaluation followed a cohort of students who were enrolled in first grade in 2015 and measured the effects on reading outcomes in second grade, after 1.5 school years of exposure to the program. Baseline data collection took place in San Martin and Ucayali in 2014 and 2015 (two cohorts). Follow up data collection for the 2015 Cohort occurred in 2016. Mathematica also carried out qualitative data collection to contextualize the results of the impact evaluation.

Major findings. After nearly two years, *Amazonía Lee* led to more professional development in reading instruction and availability of reading materials. The evaluation further found that *Amazonía Lee* had positive impacts on students' decoding, familiar word reading, and reading comprehension in Ucayali but not in San Martín, where reading outcomes of *Amazonía Lee* students were similar to students who received services from *Soporte Pedagógico*.

VI. Community Action for Reading (Nicaragua)

Program overview: The Community Action for Reading and Security (CARS) activity, implemented by DevTech Systems, was designed to help preschoolers and elementary school students in Nicaragua's South Caribbean Coast Autonomous Region (known as RACCS for its initials in Spanish) gain strong reading and socioemotional skills and improve their attachment to school, thus boosting their achievement and increasing attendance and enrollment rates. CARS included four programmatic components including, (1) formal and nonformal reading programs, (2) community engagement, (3) local capacity development, and (4) knowledge generation and management with the dual focus of strengthening community security, while improving overall educational outcomes. The program ran between 2013 and 2020. In 2017 USAID expanded CARS activities to Nicaragua's Northern Caribbean Coast.

Evaluation design. Mathematica designed a performance evaluation as a complementary study to the impact evaluation summarized above, and to help inform USAID and DevTech's program

expansion plans. The performance evaluation assessed the implementation of the program, including whether it was meeting its performance targets, and what challenges the program encountered, as well as what best practices it adopted. The performance evaluation used a mix of quantitative data sources (CARS monitoring and evaluation [M&E] indicators, child assessment data, and data from structured interviews) and qualitative data sources (such as programmatic reports and stakeholder focus groups). The performance evaluation was designed and implemented from 2015-2017, with the majority of the data collection efforts taking place in late 2016.

Major findings. CARS was on track to meet major reading program milestones, including the number of after-school programs established and students served. CARS-trained teachers incorporated CARS practices and materials into their daily activities with students. Furthermore, stakeholders provided several examples in which CARS generated positive effects on children's learning and achievement, although preliminary evidence still showed a large gap between current reading levels and program targets. At the time of the evaluation, CARS also had not met some parent and community engagement objectives.

VII. *Puentes para El Empleo* (El Salvador)

Program overview. *Puentes para El Empleo* or Bridges to Employment was designed to help increase and improve employment for vulnerable youth living in selected high-crime municipalities of El Salvador. *Puentes,* implemented by DAI Global LLC (DAI), had three main objectives which together would strengthen youth's ability to find employment. These objectives included: (1) increase stakeholder engagement to improve the enabling environment for workforce development (WFD) and employment; (2) increase institutional strengthening to improve the quality of WFD services (3) increase youth engagement to improve workforce readiness. *Puentes* was a five-year program that ended in November 2020.

Evaluation design. Mathematica originally designed a three-arm RCT to assess the impact of different interventions on youth employment. However, random assignment was not feasible because of some aspects of program design and rollout. Mathematica re-designed the evaluation and implemented a mixed-methods performance evaluation using *Puentes* monitoring data, primary qualitative data, as well as desk review of secondary information. Most of the data collection took place between late 2019 and early 2020.

Major findings. Despite some initial delays in the implementation, *Puentes* met almost all program milestones, in part because of its focus on collaborating, learning, and adapting (CLA). A total of 11,967 youth completed training and a total of 4,708 trainees secured employment. *Puentes* improved the quality of the training and support offered. *Puentes* also strengthened the technical and managerial capacity of workforce development organizations in El Salvador to make their trainings more market relevant.

VIII. Central America Workforce Development Learning Collaborative

Program overview. Workforce development programs focused on youth in Central America were included in a learning collaborative to better understand the outcomes and impacts of USAID investments in this sector. The programs aim to increase workforce readiness and income-generating opportunities for at-risk or disadvantaged by offering a variety of workforce development and education-related services, as well as by working with local private and public

sectors to facilitate the employment of trained youth. They also aim to contribute to violence and crime prevention by providing at-risk youth with soft skills (also known as life or noncognitive skills) training. Participating programs included: *Proyecto Puentes* (Bridges) – Guatemala (World Vision); *Puentes para El Empleo* (Bridges to Employment) - El Salvador (DAI); Technical Vocational Education and Strengthening for At-Risk Youth (TVET- SAY) - Nicaragua (Creative Associates); *Empleando Futuros* (Employing Futures)- Honduras (Banyan Global); Education for Success- Nicaragua (FADCANIC); *Avanza* (Advance Regional) - Honduras, Guatemala, Jamaica, Dominican Republic (FHI-360). All these programs ran between 2015 and 2020 approximately and worked with vulnerable and at-risk youth.

Design. Mathematica designed and implemented a learning agenda to develop learnings and aggregate outcomes of workforce development programs operating throughout Central America. Through in-person and virtual workshops, Mathematica worked collaboratively with implementers to identify a set of common indicators and prepared three reports documenting progress on the key shared outcomes across similar investments in youth workforce development. In addition, Mathematica facilitated the exchange of best practices and lessons learned around workforce development implementation across the programs. The learning collaborative consisted of a community of practice made up of program implementers and USAID staff guiding the participating programs.

Findings. Collectively, the six participating WFD programs expected to enroll more than 63,218 beneficiaries in integrated skills training programs focused on helping youth develop technical/vocational and soft skills. Labor-bridging activities were instrumental in helping youth beneficiaries find employment. A total of 5,310 Central American youth found employment through the programs. Collaborating with the private sector throughout the life of these programs was pivotal for their success – particularly when they had employment as a key outcome measure.

IX. Evidence Review

Motivation and background. As part of the final set of learning activities under the LAC Reads contract, Mathematica designed and developed an evaluation of the literature linking education outcomes and security. While much research has been conducted demonstrating linkages between education outcomes and future wages, USAID tasked Mathematica with an evidence review to explore the link between education attainment and security outcomes. The evidence review was intended to provide donors and policy makers with an evidence base to draw on as they design and implement education programs that, in addition to achieving education outcomes, also can mitigate crime and violence.

Design. Mathematica first developed a conceptual framework depicting how education models were linked -directly and indirectly- with different security outcomes (violent crime, nonviolent crime, and school violence). Then, Mathematica screened over 800 studies across 28 program categories of peer reviewed and grey literature. After the screening process, Mathematica reviewed 475 studies and summarized the findings across two key dimensions: strength of the evidence and the direction of the evidence. With the participation of the Frederick S. Pardee Center for International Futures, the initiative also modeled the cross-system relationships between migration, education, employment, and violence in Central America.

Findings. An extensive review of the literature found that there is currently limited evidence from both Latin America, as well as other lower and middle income countries, on the links between education programing and security outcomes. Mathematica did, however, identify 15 promising interventions that appear to affect outcomes correlated with security. Examples include, among others, early childhood, socio-economic learning, and cash transfers. Given the overall dearth of research on how programming in the education sector can affect violence and crime, Mathematica also made recommendations for additional research-- particularly on promising programs identified in this review- to fill the evidence gap.

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Appendix 1: Tracker of reports by evaluation or activity

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Table A.1. Tracker of reports by evaluation or activity

Documents		Links
I.	LAC Reads Annual Reports	
	2013 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00MMTG.pdf
	2014 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00MMTJ.pdf
	2015 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00MMTK.pdf
	2016 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00X5T3.pdf
	2017 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00X5T4.pdf
	2018 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00X5TD.pdf
	2019 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00XGPG.pdf
	2020 Annual Report	https://pdf.usaid.gov/pdf_docs/PA00XGPH.pdf
II.	Guatemala and Peru—*Leer Juntos, Aprender Juntos*	
	Evaluation plan	https://pdf.usaid.gov/pdf_docs/PA00MN1T.pdf
	Baseline report - Guatemala	https://pdf.usaid.gov/pdf_docs/PA00MMTD.pdf
	Baseline report - Peru	https://pdf.usaid.gov/pdf_docs/PA00MMTF.pdf
	Midline report - Guatemala	https://pdf.usaid.gov/pdf_docs/PA00X21Q.pdf
	Midline report - Peru	https://pdf.usaid.gov/pdf_docs/PA00X21P.pdf
	Final report - Guatemala	https://pdf.usaid.gov/pdf_docs/PA00XJKG.pdf
	Final report – Peru	https://pdf.usaid.gov/pdf_docs/PA00XJKM.pdf
	Two country summary report	https://pdf.usaid.gov/pdf_docs/PA00XJKP.pdf
III.	Honduras—*EduAcción* Promising Reading Intervention	
	Evaluation plan	https://pdf.usaid.gov/pdf_docs/PA00SXDC.pdf
	Baseline report	https://pdf.usaid.gov/pdf_docs/PA00WPTP.pdf
	Midline presentation	https://pdf.usaid.gov/pdf_docs/PA00WPTQ.pdf
	Final report	https://pdf.usaid.gov/pdf_docs/PA00WDW1.pdf
	Executive summary in Spanish	https://pdf.usaid.gov/pdf_docs/PA00WPTR.pdf
IV.	Nicaragua—*Espacios para Crecer*	
	Evaluation plan	https://pdf.usaid.gov/pdf_docs/PA00XBVT.pdf
	Baseline report	https://pdf.usaid.gov/pdf_docs/PA00XDQZ.pdf
	Final report	https://pdf.usaid.gov/pdf_docs/PA00XDR4.pdf
V.	Peru—*Amazonía Lee*	
	Evaluation plan	https://pdf.usaid.gov/pdf_docs/PA00MMTQ.pdf
	Baseline report	https://pdf.usaid.gov/pdf_docs/PA00XJKR.pdf
	Final report	https://pdf.usaid.gov/pdf_docs/PA00TCQ1.pdf
	Executive summary in Spanish	https://pdf.usaid.gov/pdf_docs/PA00XJKS.pdf
VI.	Community Action for Reading (Nicaragua)	
	Evaluation plan	https://pdf.usaid.gov/pdf_docs/PA00XBVW.pdf
	Final report	https://pdf.usaid.gov/pdf_docs/PA00N66Q.pdf

Documents		Links
VII.	*Puentes para El Empleo* (El Salvador)	
	Evaluation Plan	https://pdf.usaid.gov/pdf_docs/PA00WPV3.pdf
	Final report	https://pdf.usaid.gov/pdf_docs/PA00X2P5.pdf
	Executive summary in Spanish	https://pdf.usaid.gov/pdf_docs/PA00X3C9.pdf
VIII.	Central America Workforce Development Learning Collaborative	
	First Annual Central America WFD report	https://pdf.usaid.gov/pdf_docs/PA00T8JM.pdf
	Second Annual Central America WFD report	https://pdf.usaid.gov/pdf_docs/PA00W77J.pdf
	Third Annual Central America WFD report	https://pdf.usaid.gov/pdf_docs/PA00X12N.pdf
IX.	Evidence review	
	The future of Honduran education system	https://pdf.usaid.gov/pdf_docs/PA00WPTJ.pdf
	The future of Guatemalan education system	https://pdf.usaid.gov/pdf_docs/PA00WPTG.pdf
	Central America and Caribbean regional education report	https://pdf.usaid.gov/pdf_docs/PA00WPTK.pdf
	Evidence Review (Full Report)[1/]	https://pdf.usaid.gov/pdf_docs/PA00XFMG.pdf
	Chapters alone	https://pdf.usaid.gov/pdf_docs/PA00XGXT.pdf
	Appendices alone	https://pdf.usaid.gov/pdf_docs/PA00XGXW.pdf
	Executive summary	https://pdf.usaid.gov/pdf_docs/PA00XGXS.pdf
X.	Policy Briefs	
	Lessons from LAC Reads: Leer Juntos, Aprender Juntos in Peru and Guatemala	https://pdf.usaid.gov/pdf_docs/PA00XFMJ.pdf
	Lessons from LAC Reads: Amazonía Lee in the Peruvian Amazon	https://pdf.usaid.gov/pdf_docs/PA00XFMH.pdf
	Lessons from LAC Reads: EducAcción Promising Reading Intervention in Honduras	https://pdf.usaid.gov/pdf_docs/PA00XFMM.pdf
	Lessons from LAC Reads: Espacios para Crecer in Nicaragua	https://pdf.usaid.gov/pdf_docs/PA00XFMK.pdf
	Facilitating Impact Evaluations: Recommendations from the LAC Reads Evaluations	https://pdf.usaid.gov/pdf_docs/PA00XH4H.pdf
	Methodological Insights for Impact Evaluations	https://pdf.usaid.gov/pdf_docs/PA00XH4G.pdf
XI.	LAC Reads Final report	https://pdf.usaid.gov/pdf_docs/PA00XKGF.pdf

[1/] For the Evidence review, in addition to the full report we have made available in separate files for easy downloading: the executive summary, the report without appendices, and the appendices alone.

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