

Researchers

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Timeline

2020-2021

Sample Size

1,065 households

Research Implemented by IPA

Yes

Evaluating a Radio Math Instruction Program in Peru

Abstract

How can we improve students' educational achievement? Can radio instruction successfully support distance learning? In rural Peru, researchers implemented a randomized evaluation to measure the impact of an interactive radio instruction program aiming to increase the mathematics skills of preschoolers. The preliminary results show the program had a positive impact on math and oral comprehension skills, and on parental investment. More results forthcoming.

Policy Issue

Results from international standardized tests and national achievement tests reveal that in many developing countries students are not learning the educational curricula. In Latin America, the results of the latest [Programme for International Student Assessment \(PISA\)](#) showed that students in the region lag their OECD peers by the equivalent of three years' instruction in reading, math, and science. [Evidence suggests](#) that radio instructional programs, that support teachers in the classroom, have the potential to increase learning outcomes, with the advantage of requiring quite limited teacher training. Given the COVID-19 pandemic and the shift to remote learning, radio instruction programs also have the potential to support distance education. This evaluation will shed light on these issues by evaluating the impact of a radio instruction program in Peru.

Context of the Evaluation

In recent years, Peru has made notable progress in terms of coverage and access to education, particularly in rural areas. However, the academic performance of the students

has not improved significantly. Students in rural areas exhibit considerable educational gaps compared to their peers in urban areas.^[1] These gaps could potentially be exacerbated by the school closures, as high-income families can easily access diverse sources of instruction — such as TV, computers, smartphones, and books compared to vulnerable populations.

To address these challenges, IPA and the Inter-American Development Bank (IDB), with the technical support of Peru's Ministry of Education and financial support of Old Dart Foundation (ODF), developed the “MateWasi - Learning as a Family Program. The program was built on the success of the Tikichuela program in Paraguay, which uses interactive radio instruction as a means to improve learning outcomes. To set the foundations for future learning, MateWasi was designed for the preschool age. It was implemented in Peru's San Martin region during summer vacations (January to March 2021) where radio instruction became widespread during pandemic-related school closures, and where the levels of math learning outcomes are among the lowest in country.

Details of the Intervention

In Peru, researchers measured the impact of “MateWasi - Aprendiendo en familia” on learning outcomes. One thousand sixty-five households with at least one child of preschool age (4 to 6) were randomly assigned to receive the radio program through a local station along with caregiver training or to a comparison group. Households assigned to the comparison group have access to the radio program (as it is broadcast on a local station) but are not encouraged to have their preschoolers attend the lessons.

For 10 weeks, forty 15-minute mathematics lessons were broadcast . Each lesson included music, games and interaction with caregivers to promote learning. Additionally, caregivers participating in the program received calls and text messages from specialists who guided them in parenting topics and provided them with relevant pedagogical activities. They also received a package of materials with educational worksheets and guides to supplement the radio activities.

The research team conducted an initial survey and a final survey 10 days after the completion of the intervention. Additionally, they conducted a remote math test to measure the program's effect on learning.

Results and Policy Lessons

The preliminary results show the program had a positive impact on math and oral comprehension skills (as measured by the remote test) and on parental investment. After the end of the program, parents from the intervention group engaged more often in various educational activities, including math tasks such as counting, comparing quantities, adding, and subtraction. In qualitative interviews, caregivers of the intervention group reported an improvement in their children's math skills. They also reported being satisfied with the coaching process, as it enabled them to better support children's learning and development.

More results forthcoming.

Watch a video about the project below:

Sources

^[1] Grupo de Análisis para el Desarrollo - GRADE. 2018.
<http://www.grade.org.pe/creer/educacion-rural-en-el-peru/cifras/>

August 09, 2021