

Messages that promote the idea that intelligence is a skill that can be improved through practice and effort significantly increased student achievement in Peru.

Improving Student Outcomes for Only Twenty Cents

We all know that if a 13-year-old has his mind set on something, it is quite difficult to try to change it. This is exactly the type of challenge that the Ministry of Education in Peru is approaching with students in public schools and high schools, targeting those from low-income households in particular.

Teenagers often have pre-conceived ideas about their own intelligence, which influences how they react to academic challenges. If a student thinks he is not smart enough, he believes there is little he can do to improve. But there's good news: recent studies have shown that intelligence is not immutable and unalterable. On the contrary – with practice, we can expand our intellectual capabilities over time.

The Ministry of Education in Peru is using these findings to improve outcomes for students in public high schools, especially those from low-income households. The handout students in Peru received explains it simply: “Everyone knows that when you lift weights your muscles grow stronger. Scientists have discovered the brain works in the same way; when you face big challenges your brain also grows.”

The Project

Like many other countries, Peru is worried about standardized test outcomes and what they mean for students, especially for the increasing gap between students from high- and low-income households. The standard approach to improving student achievement involves investing more in teacher training and learning materials. Researchers from the World Bank, the University of Oxford, and the Group for Analysis for Development (GRADE) in Peru decided to take a different approach. They developed a project called “*Expand Your Mind*” which is focused in developing motivation and perseverance.

Through this growth mindset intervention, students and teachers in 800 selected public schools and high schools were asked to read an essay titled “*Did You Know You Can Grow Your Intelligence?*” and to do a series of activities to demonstrate that they understood the content of that essay.



INTERVENTION

- **50,000** seventh and eighth grade students.
- A 90-minute session where students and teachers discuss a specialized article on **how brains can grow**.
- Schools in **three regions in Peru** (Ancash, Junín, and Lima).



EVALUATION

- Experimental **impact evaluation**.
- 800 public schools were **randomly assigned** to treatment and control groups.
- Results were measured by **comparing the means** of these two groups.



RESULTS

- Intent to treat (ITT) results indicate an **overall effect of a 0.05 standard deviation increase in math test scores** among eighth graders, and no effect in language scores.
- These effects hide heterogeneous effects, with no effects found in Lima, while in the other two regions the effects in math and language were both significant, **increasing math and language test scores by 0.14 and 0.09 standard deviations**, respectively.
- Local average treatment effects (LATE) results account for lower than expected take up due to challenges during implementation suggest **adjusted effects as high as 0.35 and 0.23 standard deviation increase in math and language test scores**, centered in the two non-Lima regions.
- The largest results are equivalent of up to **four months of schooling**.
- Cost-effective at **US\$0.20 per student**.

The Results

The intervention reached more than 50,000 students in only a few months and was implemented at a cost of only twenty cents per student.

An impact evaluation of the project showed up to an ITT effect of 0.14 standard deviation increase in math test scores (eighth grade). LATE results to adjust for lower than expected take up challenges during implementation suggest an effect up to 0.35 standard deviation increase in math test scores and up to 0.23 standard deviations in language, equivalent to up to four months of schooling, with the effects focused in two of the regions where the project was implemented. Significantly, the results persisted over time – preliminary results show continued improvement in students 14 months later, suggesting that the intervention changed mindsets for the long term. These latter results were found in eight grade students who received the intervention in seventh grade.

Policy Implications

The intervention demonstrates the power of a low-cost, high-impact intervention for improving student outcomes dramatically and over time. The Ministry of Education in Peru is currently scaling up the intervention and is implementing new trials to test the efficacy of additional teacher tools and video modalities. Given its promising results, eMBeD is also replicating this work in other countries, including Indonesia and South Africa, to test its scalability and reliability.

About eMBeD

The Mind, Behavior, and Development Unit (eMBeD), the World Bank's behavioral science team in the Poverty and Equity Global Practice, works closely with project teams, governments, and other partners to diagnose, design, and evaluate behaviorally informed interventions. By collaborating with a worldwide network of scientists and practitioners, the eMBeD team provides answers to important economic and social questions, and contributes to the global effort to eliminate poverty and enhance equity.



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