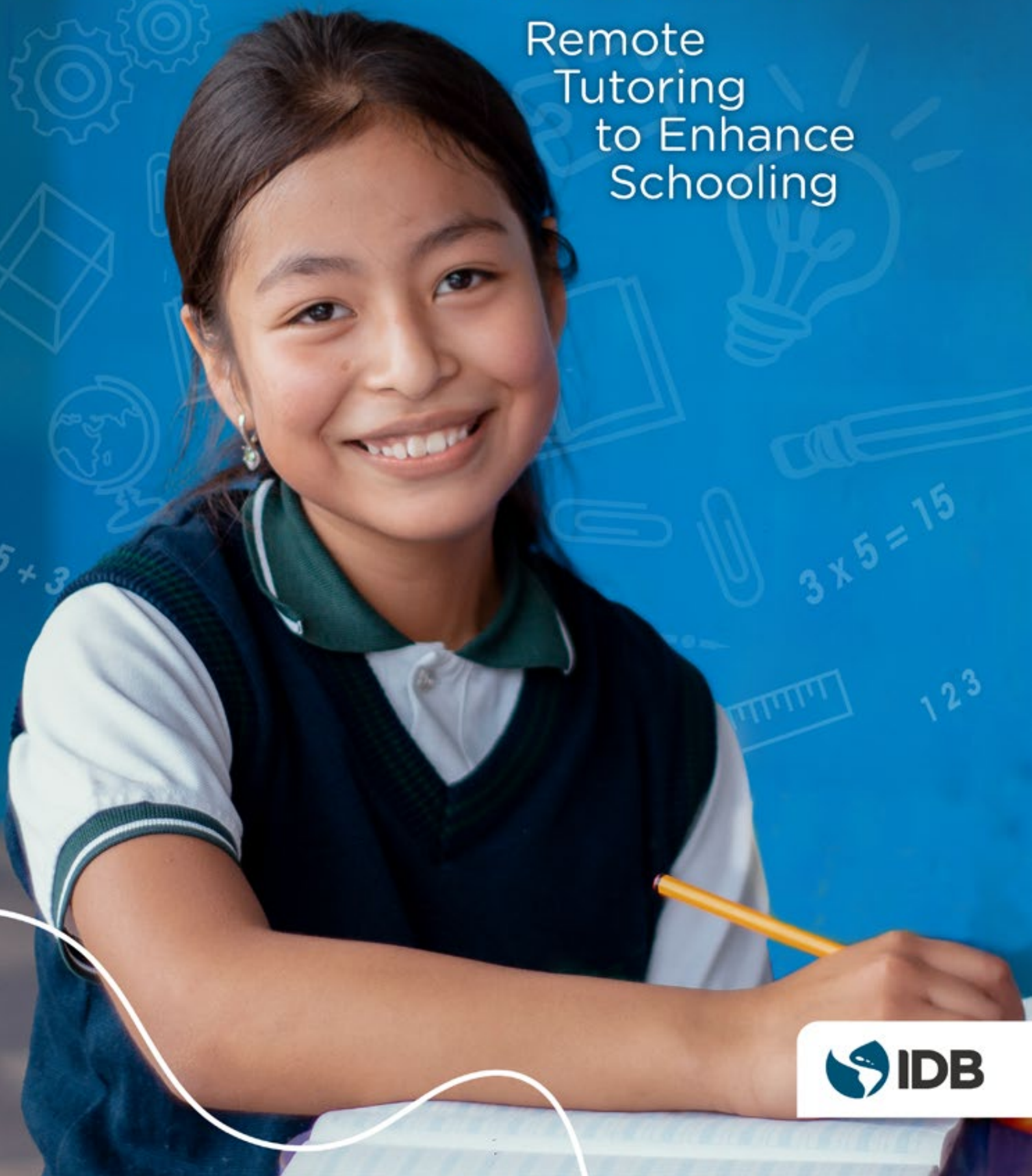
MULTIPLYING LEARNING

Remote Tutoring to Enhance Schooling



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Contents

In memoriam

We dedicate this publication to those who accompanied us along the way and unfortunately are no longer with us today. To Inés Aguerrondo, who was part of the technical advisory committee. To Alfredo Martínez, in charge of monitoring the implementations in Central America and Mexico. And to the Paraguayan tutor Carlos Villamayor.

Acknowledgments

Multiplying Learning: Remote Tutoring to Enhance Schooling is the result of the collaboration of various teams from ministries of Education, civil society organizations, and academia, not only from Latin America and the Caribbean but also from other regions of the world, who have focused their efforts on recovering lost learning, reducing gaps, and accelerating learning in contexts where inequalities were exacerbated after the COVID-19 health crisis.

This document was prepared by Andrea Prieto, Carolina Hernández, Victoria Oubiña, Milton Calderón, and Gonzalo Almeyda, members of the Learning Acceleration team of the Education Division of the Inter-American Development Bank (IDB), under the general supervision and leadership of Pablo Zoido. Mercedes Mateo-Berganza, as Chief of the Education Division of the IDB, supported, promoted, and led the conception of the project, its implementation, and the preparation of this report. The initial writing process of all the chapters was carried out by Facundo Albornoz, based on the contribution of brief notes from the experts of the technical advisory committee of this publication. The editorial curation of the original version (in Spanish) was in charge of Pablo Pardo, who ensured that the language used was direct, concise, and friendly.

The IDB's learning acceleration team wishes to thank those who have contributed their experience, dedication, knowledge, and effort to make each page of this document written.

We thank the governments that opened the door for us to develop the first round of remote tutoring pilots in the region (El Salvador, Mexico, Guatemala, and Argentina). We know it is an innovative program that may raise initial doubts and resistances, but the interest in improving their students' learning led them to take the risks and be pioneers in the region. Likewise, we acknowledge and thank our implementing partners in these countries (the Center for Research and Higher Studies in Social Anthropology - CIESAS, the Center for Educational and Social Studies - CEES, and the Center for Evidence-Based Policy Evaluation - CEPE of the Torcuato Di Tella University); without their quality work and timely management, it would have been impossible to develop the interventions successfully.

The results of the first round of pilots, including all the lessons and learnings that were gathered, are the backbone of this publication. However, we also take this opportunity to thank the governments of the countries in the second round of pilots (Paraguay, Peru, Ecuador, Colombia, Brazil, and the

Dominican Republic) for their openness to this intervention being implemented in their contexts. At the time of this publication, the final results of these pilots are not yet available, but part of the experience in developing these interventions is reflected in the final chapter of this book, which addresses recommendations for scaling. We also extend our thanks to the Ministry of Education of Chile for the documentation and review of the information shared in this book on the National Tutoring Plan in their country.

Of course, we also thank the implementing partners in these countries (Fundación Dequení, the *Grupo de Análisis para el Desarrollo* - GRADE, Grupo Faro, Corpoeducación, Instituto Elos, and World Vision) for their effort and management that have helped to carry out these implementations.

Thanks to the more than 1,000 tutors in 10 countries in the region who have participated in the pilot phase. It is them who have made the magic happen to ensure that students improve their performance through phone calls.

We also thank the families of the students who were part of this program, supporting their children, the work of the tutors, teachers, and school directors who supported this project.

We highlight the financial cooperation provided by the *Agencia Francesa de Desarrollo* - AFD, and by the Japanese Fund, which made possible the execution of some of the remote tutoring pilots in the region.

At the beginning of 2023, we convened a group of people, including academics and implementing partners, to be members of the technical advisory committee of this publication. With them, we conducted collective reflection workshops and invited them to write brief notes where they could capture their experience implementing tutoring programs in their contexts, or share the results of their research on these interventions. The ultimate goal was to make their work visible and to take their input as the basis for the construction of the chapters of this book. We appreciate the contributions of this team of experts and the time they have dedicated to this work throughout this year.

The names of the members of the technical advisory committee are shared in Annex A.

We also recognize the importance of the technical reviews, which helped to improve the quality of this document. We thank the anonymous external reviewer who provided recommendations for improving the technical part and the writing of this publication. Subsequent reviews were carried out by members of the Education Division: Gregory Elacqua, Analia Jaimovich, and Tamara Vinacur. We also thank the contributions of different specialists from the division, which have been key for the implementations carried out in the last two years: Ela Diaz, Sonia Suarez, Luana Castro de Souza, Carolina Méndez, Ximena Dueñas, Raquel Fernández, Joao Paulo Cossi, Juan Maragall, and Andrea Bergamaschi.

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We acknowledge the Inter-American Development Bank for financing the research presented in this publication and its Regional Public Goods program. The views expressed in these pages and in the brief notes are those of the authors and do not necessarily reflect the position of the Inter-American Development Bank, its directors, and the countries it represents. The authors have no financial or material conflicts of interest with the results presented here. All errors are our own.

Executive summary

Countries in Latin America and the Caribbean are positioning themselves to be part of the solution to the major global problems facing the world in this 21st century, from climate change to food insecurity. However, to realize that future vision, the region needs to rapidly boost learning, thereby enhancing the skills of its citizens, that is, its human capital.

The educational challenge is both one of quality and time.

It is a challenge of quality because one in five young people does not complete their school education, and three out of five fail to acquire foundational knowledge and skills, even if they complete their journey through the educational system. Moreover, there are significant differences in performance among students that are linked to their individual characteristics (socioeconomic level, gender, disability, etc.) that in no way reflect their level of effort in school and are beyond the student's control.

On the other hand, it is a race against time, because in a world of exponential changes, and even though countries have made enormous efforts to expand access to education, students in the region are not advancing in their learning at the same pace as in other parts of the world. In fact, at the age of 15, students in the region are three years behind in academic performance in mathematics, reading, and science compared to an average student of the same age in OECD countries.

Getting out of this learning crisis, which the pandemic has exacerbated and deepened, demands innovative, evidence-based, effective, and scalable solutions: different results cannot be expected by repeating old recipes. Therefore, for example, neither repetition nor remediation of learning are solutions.

One solution is to accelerate learning, particularly of those skills that are the foundation upon which other knowledge and abilities are developed.

This publication represents a guide on how to develop strategies for accelerating learning in Latin America and the Caribbean. That is, how to reduce the distance between the actual learning of all students and their expected educational achievement, a gap in which our region sadly surpasses the rest of the world. Latin America and the Caribbean is the region where students learn the least in relation to the number of years of education they receive.

This publication focuses on one of the most promising strategies for accelerating learning: remote tutoring. Experiences with remote phone tutoring developed by several governments in the region with the support of the

Inter-American Development Bank (IDB) demonstrate the effectiveness of placing close and empathetic tutors on the other end of the phone line. When the tutor-student connection is made, all the barriers limiting educational success in the region can be overcome.

Moreover, tutoring stands out as a particularly successful tool that can be adapted to different contexts. It can also be combined with innovative approaches such as teaching at the right level or distance support, using simple technologies already available in the vast majority of homes in the region, even the most vulnerable ones.

In other words, remote tutoring is an interesting policy tool to integrate, complement, and develop the region's efforts to accelerate learning at a systemic level.

This publication presents new evidence of the effectiveness of remote tutoring based on the experience of four Latin American countries (El Salvador, Mexico, Guatemala, and Argentina) and nine outside the region (United States, Italy, Spain, Botswana, Kenya, Uganda, Nepal, India, and the Philippines). The evidence consistently points to improvements in learning and well-being of students and, in many cases, of their tutors.

The conclusion is that remote phone tutoring is a useful strategy for achieving three key educational goals for Latin America and the Caribbean:

1. Improve the foundational competencies of all children and youth;
2. Reduce learning gaps, focusing on those lagging behind;
3. Ensure that all students complete their educational paths.

For Latin America and the Caribbean, achieving these three goals would mean increasing their human capital, productivity, and competitiveness; and, in turn, boosting economic and social development. For millions of students in the region, achieving these goals means opening the door to a world of possibilities and the freedom to forge their own destiny.

Something as simple as a phone call can change each child's relationship with learning.

Main findings

- Remote tutoring is an effective and efficient strategy for accelerating learning, especially among marginalized and hard-to-reach populations. Compared to other educational interventions, remote tutoring has a "high" and "medium-high" positive impact on learning in the analyzed cases.
- In Latin America, students who receive remote tutoring learn 30% faster than those who do not. This means that with three rounds of eight weeks each, approximately six months in total, it is possible to close a one-year learning gap. Or that if a student without tutoring can master basic math operations (addition, subtraction, multiplication, and division) in 9 months, one with tutoring will acquire them in 6 months.
- Remote tutoring is a cost-effective intervention. In Latin American cases, the program can achieve up to 40% of the learning in foundational skills that normally occur during a high-quality school year, for every additional US$100 invested per student. This places it among the most cost-effective educational interventions, according to data from a review of 150 impact evaluations in education in 46 countries conducted by Angrist et al. (2020).
- Remote tutoring is a relatively modest investment. Offering remote tutoring to all students with educational lag at a key stage where educational paths tend to break, i.e., the transition between primary and secondary, represents only between 0.02% and 0.6% of the total educational expenditure of countries in the region. These calculations focus on estimates for 12-year-old students and take into account both those who do not reach basic levels while in school and those who are out of the educational system.

- Tutoring also has a positive effect on the well-being of students and tutors. These processes foster a bond between the tutor and the student that positively influences the overall emotional well-being of the pupils. According to their parents and relatives, the personalized and constant contact improves the motivation, confidence, and self-esteem of students who receive the tutoring. Tutors also report high personal and professional satisfaction with the program.

- The Latin American experience highlights the importance of ensuring the highest possible participation in the program. Within a limited program in its objective, time, and intensity (improving foundational math skills, with a weekly 20-minute tutoring for 8 weeks), the evidence suggests that the more tutoring sessions, the greater the learning gains.

Public policy guidelines

The policy lessons inspired by these successful experiences can be summarized in three areas (the ABC of scaling remote tutoring): Accelerate learning, Balance cost with effectiveness, and Care for the quality of implementation.

A

Accelerate learning. To maintain the positive impact of remote tutoring when scaled, three aspects must be considered (the 3 As):

- **Adapt** the tutoring to the real learning level of the student, determined at the beginning of the implementation with a simple, objective, and rigorous diagnosis.

- **Assist and support** tutors with simple materials and provide them with continuous support so they can build a relationship of trust with students and families;

- **Analyze** continuously the progress of the students by measuring their achievements and learning challenges. In accordance with this, adjust the content and the way of teaching.

Public policy guidelines

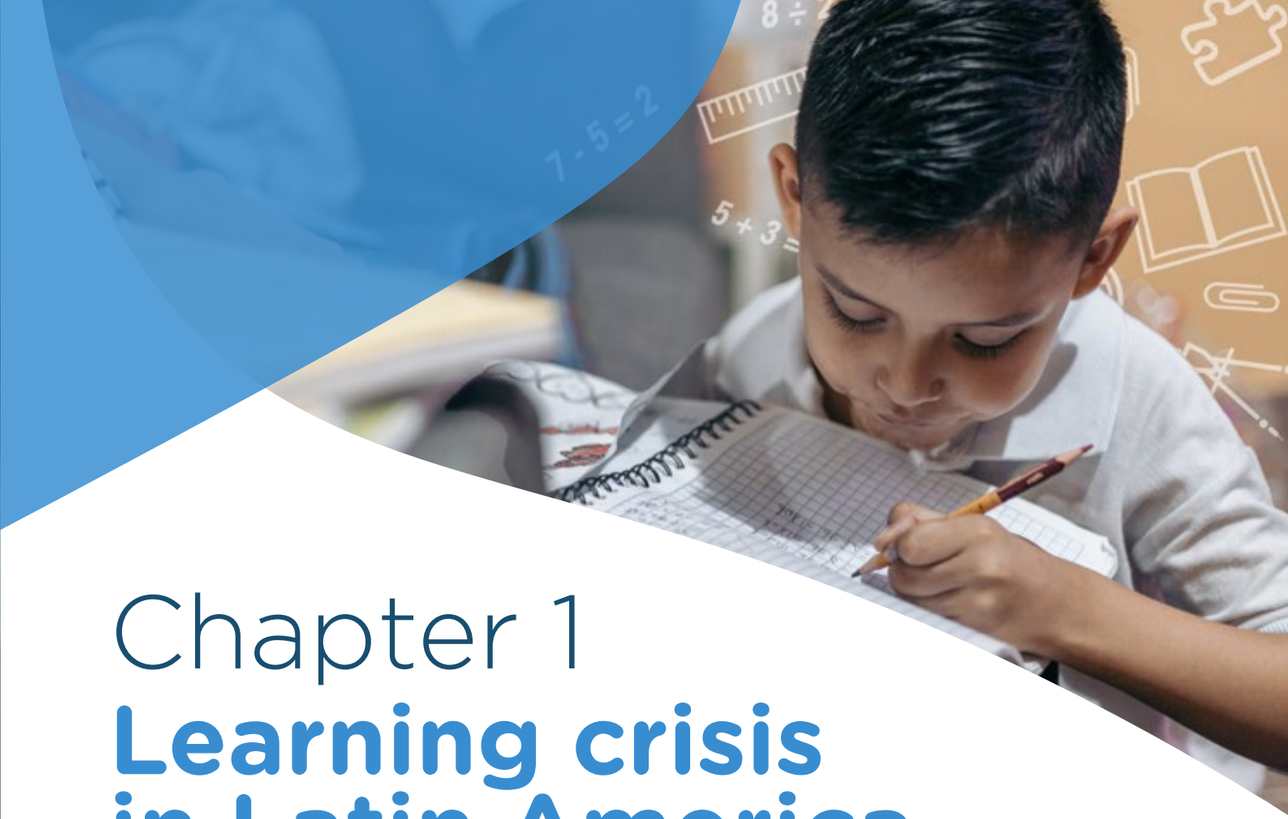
Balance cost with effectiveness. To keep the cost limited while protecting effectiveness, three foundations must be kept in mind (the 3 Bs):

- **Bring** free support to families, both in terms of the cost of tutoring and travel for caregivers and/or students, using technologies appropriate to the context, available or accessible at a low cost.
- **Bring** costs down, minimizing them by for example, mobilizing social solidarity efforts and providing training opportunities for tutors;
- **Benefit** the most vulnerable, both in socioeconomic terms and in educational performance, as they are the ones who benefit most from tutoring.

Public policy guidelines

Carefully control and monitor implementation with quality assurance mechanisms. Quality execution is a critical factor both for achieving results at the lowest possible cost. For this, it is necessary to take into account the following three keys (the 3 Cs):

- **Coordinate** with school communities and authorities at all levels of the educational system: national, state or provincial, and local;
- **Calibrate** the execution in real-time based on a permanent record and monitoring of the implementation and progress of the students;
- **Continue to build** on what is already being done well in the school and complement the efforts already being made, working with public and private partners, and involving families in the education of their children.



Chapter 1
Learning crisis in Latin America and the Caribbean

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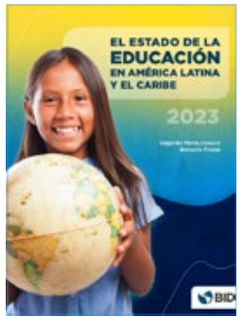

El estado de la educación en América Latina y el Caribe

Alejandro Morduchowicz
Bismarck Pineda

Forthcoming

Perspectivas educativas en América Latina
Panorama a la salida de la pandemia

Miguel Székely,
Ivonne Acevedo,
Pablo Zoido

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1 Learning crisis in Latin America and the Caribbean

What did we learn?

- Education in Latin America and the Caribbean provides lower levels of schooling, lower learning achievement and lower completion rates compared to other regions of the world. The COVID-19 pandemic exacerbated this situation.
- Inequalities in educational achievement manifest themselves in significant disparities according to family background, socioeconomic level, geographic location, ethnicity and gender. Education systems must find ways to reduce learning gaps through structural policies and targeted support for students who are lagging behind.
- In order for Latin America and the Caribbean to live up to its enormous potential, it is crucial that all stakeholders in education, including governments, educational institutions, teachers, families and society in general, work together and commit themselves to the objective of strengthening foundational learning and socioemotional skills.

Every morning, Juan Esteban, a boy from a rural town in Colombia, gets ready for school. Like other boys his age, Juan prepares his school supplies and puts them in a small backpack that hangs on his back. But Juan also does something else: he puts on the sturdiest shoes he has and a cap. He needs that to make the six-kilometer walk from his home to his school twice a day: once to go and once to return (RCN, 2022). That's at least two hours of travel, or a third of the length of his school day, which runs from 8:30 a.m. to 12:30 p.m. (RCN, 2022).

If Juan is lucky, a neighbor who usually passes along his same route in a horse-drawn cart will bring him a little closer to school or, in the afternoon, home. Of course, that doesn't matter much to the boy: over time he has become accustomed to the obligatory walk without which he will never be able to learn to read, write and add.

Millions of students in Latin America and the Caribbean live in situations similar to Juan's, not only in rural areas, but also in cities, where children live in precarious neighborhoods, and have to go to school in the face of poor infrastructure, inadequate transportation, an unsafe road, or simply travel a considerable distance.

As a result, by the end of primary education, students in worse conditions have acquired less knowledge and skills than those who have been in a favorable environment (Galván Mora, 2020). Structural inequalities in Latin America and the Caribbean generate these disparities in student learning and school performance, in addition to a considerable lag with education systems in other regions of the world. As a result, the proportion of young people who do not achieve foundational learning is extremely high and with great variability within the region itself.

While detailed statistics are not yet available to confirm the exact magnitude of the COVID-19 pandemic across the region, there is no doubt that it has exacerbated the situation. The health crisis has had a devastating impact on learning and has deepened the educational gaps that characterize the Latin American and Caribbean region, which experienced one of the longest school closures in the world (UNICEF, 2020a).

The health crisis has had a devastating impact on learning, and has deepened the educational gaps that characterize Latin America and the Caribbean.

Therefore, the pandemic allowed having a better vision of the serious educational crisis Latin America and the Caribbean suffers, and the urgency to find answers to the pre-existing weaknesses of regional educational systems (Aguilar, 2020; United Nations, 2022).

In 2020, 114 million students left in-person classes in the region, of which, by mid-2021, 86 million had not yet returned to the classroom. In addition, fewer hours of study were detected in vulnerable households, which is related to poorer academic performance and a higher probability of dropping out of school (Abizanda et al., 2022; Zoido et al., 2020).

Thus, the pandemic has made it possible to visualize the serious educational crisis in Latin America and the Caribbean, and has increased the urgency to find answers to the pre-existing weaknesses of regional education systems (Aguilar, 2020; United Nations, 2022). Paradoxical as it may seem, the pandemic has created the conditions to address structural improvements in our education systems, which are experiencing a silent crisis that is often ignored or put on the back burner of political agendas and electoral platforms. For example, it has highlighted the relevance of teachers and educational institutions in supporting the learning process, as well as the mutual appreciation between teachers and families. The need to explicitly address the emotional well-being of those who are part of educational communities has also been highlighted (Reimers, 2021).

This chapter illustrates the educational challenges facing the region, focusing on learning and other educational variables.

Understanding and recognizing this reality is essential in order to appreciate the urgency of innovative and scalable solutions that accelerate learning and also contribute to reducing educational inequalities between students, schools and countries. The goal is that all students improve, but that those who improve the most are those who performed the worst, thus ensuring that no one, regardless of their environment, is left behind.

Emerging experiences show that remote tutoring represents a successful response with great potential to recover and accelerate learning on a large scale in Latin America and the Caribbean. This is a complementary response to the countries' curricula, based on strengthening foundational skills, with personalized accompaniment, adapted to the specific needs of each student and using accessible and low-cost technology. Of course, these do not solve all educational challenges, but they can be a first step and an example of what can be achieved with a relatively small investment when the talent potential of our region is recognized and fostered.

1.1 Educational challenges beyond the pandemic

Although COVID-19 accelerated a positive transformation in many aspects of society – for example, digitalization – in education it aggravated an already complex situation, marked by the inequalities that characterize the countries of the region (Bambra et al., 2020; Goudeau et al., 2021; Johnson et al., 2021). Apart from the pandemic, the educational lag of Latin America and the Caribbean in comparison with other more developed areas of the world can be seen in the following elements (Morduchowicz and Pineda, forthcoming).

1. Lower **schooling**;

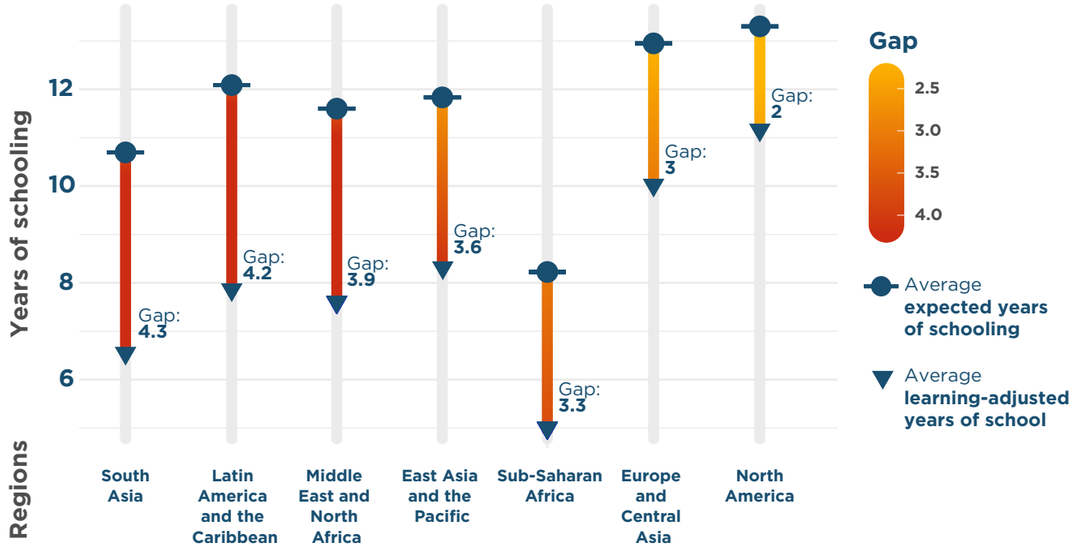
2. Lower and unequal learning **performance**;

3. A lower **completion** (graduation) rate;

In terms of **schooling,** the regional average is 9.07 years, which is at least 25% below the level of OECD countries, although it is quite similar to West Asia, North Africa and the world average (Morduchowicz and Pineda, forthcoming).

One of the most striking results of educational **performance** in terms of learning is that it is even lower than would be expected given the level of schooling in the region. Although the average educational expectation in Latin America and the Caribbean is 12 years, in terms of effective learning it is only eight (Figure 1.1), according to data from the Human Capital Index (World Bank, 2020).[1] This represents a gap of four years between expected and achieved education, the largest in the world after South Asia. The divergence is smaller in primary education than in subsequent levels of education.

Figure 1.1 Gap between expected years of schooling and years of schooling adjusted for learning by region, 2020



Source: *author's compilation from the Human Capital Project (HCI), (World Bank, 2020).*[2]

Inequalities in learning can be seen, for example, in the significant differences in performance according to the context of their families. The differences increase if variables such as socioeconomic level, geographic location, ethnicity, or gender are added:

- Considering the socioeconomic reality of children and adolescents, 70% of students from families with fewer resources do not reach minimum reading levels, in contrast to 29.5% of students from more affluent families.[3]

The richest 20% of students are five times more likely than the poorest 20% to finish high school.

- In 21 countries in the region, the richest 20% of students are five times more likely than the poorest 20% to complete upper secondary school (UNESCO, 2020).

Beyond socioeconomic inequality, in terms of diversity and inclusion, some disparities are still significant (UNESCO, 2020):

- Barely 30% of the indigenous and Afro-descendant population with incomes above the minimum wage have access to education;
- Nearly half of the countries in the region have provisions for educating boys and girls with disabilities in separate settings;
- In seven countries in Latin America and the Caribbean, LGTBIQ+ youth report feeling unsafe in their schools because of their sexual orientation and gender identity and expression.

Inequalities increase as young people move from primary to secondary education. Taking the results of the PISA[4] tests, the average reading performance level of 15-year-old students in Latin America and the Caribbean is 407 points (Level 2), compared to 487 (Level 3)[5] in OECD countries. In mathematics, the picture is less encouraging, as the difference is two levels, with Latin America at Level 1 (387 points) and the OECD at Level 3 (489 points) (Morduchowicz and Pineda, forthcoming). These differences are equivalent to two and three years of lag in the performance of Latin American students in relation to their peers in OECD countries.

Moreover, underperformance has not improved in recent decades. Learning gaps, far from decreasing, seem to have stagnated. If we compare PISA 2006 with 2018 we detect a decrease in results of 6.3 points in mathematics and 4.6 points in science. Only in reading there is an increase of 4.4 points, with a slight improvement in proficiency levels in at least five countries in the region (Bos et al., 2019) (see Information Box 1.1). However, falling scores are not very significant when considering the values for each proficiency level.

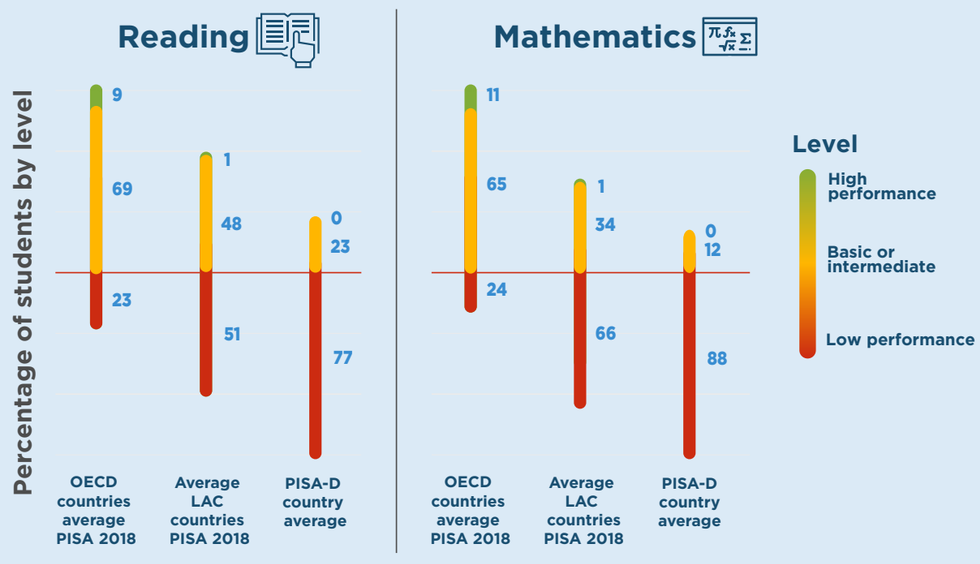
Information Box 1.1

Lagging in mathematics and reading

The results of the PISA and PISA-D tests (Figure 1.2) show a marked difference in the average performance of Latin American students, to the point that, in reading and mathematics, respectively, 51% and 66% of them do not reach the minimum required knowledge. In other words, they fail to identify explicit information, make simple inferences or apply knowledge in everyday situations.

The greatest lags in relation to other countries are in mathematics. While in the OECD an average of only 24% of students do not reach the minimum knowledge in this area, in Latin America and the Caribbean the percentage is 66%. The fact that the greatest delays are in this area is significant since school is more important than home in the learning process for mathematics.

Figure 1.2 Comparative scores of the PISA 2018 results



Source: *Authors' own elaboration based on PISA 2018 and PISA-D reports.*

Note: *PISA-D average includes all PISA Development countries (Cambodia, Ecuador, Guatemala, Honduras, Paraguay, Senegal, Zambia). For the Reading category: high performance is defined as scores above 626 points (levels 5 and 6), basic or intermediate performance between 407 and 626 (levels 2, 3, and 4), and low performance with scores below 407 (level 1). For Mathematics: high performance is observed with scores above 607 points (levels 5 and 6), basic or intermediate performance between 420 and 607 (levels 2, 3, and 4), and low performance with scores below 420 (level 1). Average values were used and not totals. Totals may differ slightly due to rounding.*

The pandemic aggravated the situation by increasing the risk of school dropout by 2.5% due to the expansion of remote education processes (UNICEF, 2022). The crisis triggered by COVID-19 hit women and girls and remote and rural areas hardest, and revealed two fundamental weaknesses (Alvarez Marinelli et al., 2020; Lustosa Rosario et al., 2021):

1. Lack of preparedness of countries to sustain education in the midst of an emergency;
2. The inability to solve the problem through the use of technology.

The attempt to use technology in the pandemic highlighted, for example, the lack of preparation of teachers in the use of these tools or the significant gaps in access to them at school and at home, both by socioeconomic level and by geographic area. This also affects low learning performance. In addition, the gap for students to access a computer at home is 65 percentage points, which makes it one of the main indicators of socioeconomic inequity in the region (Arias Ortiz et al., 2021).

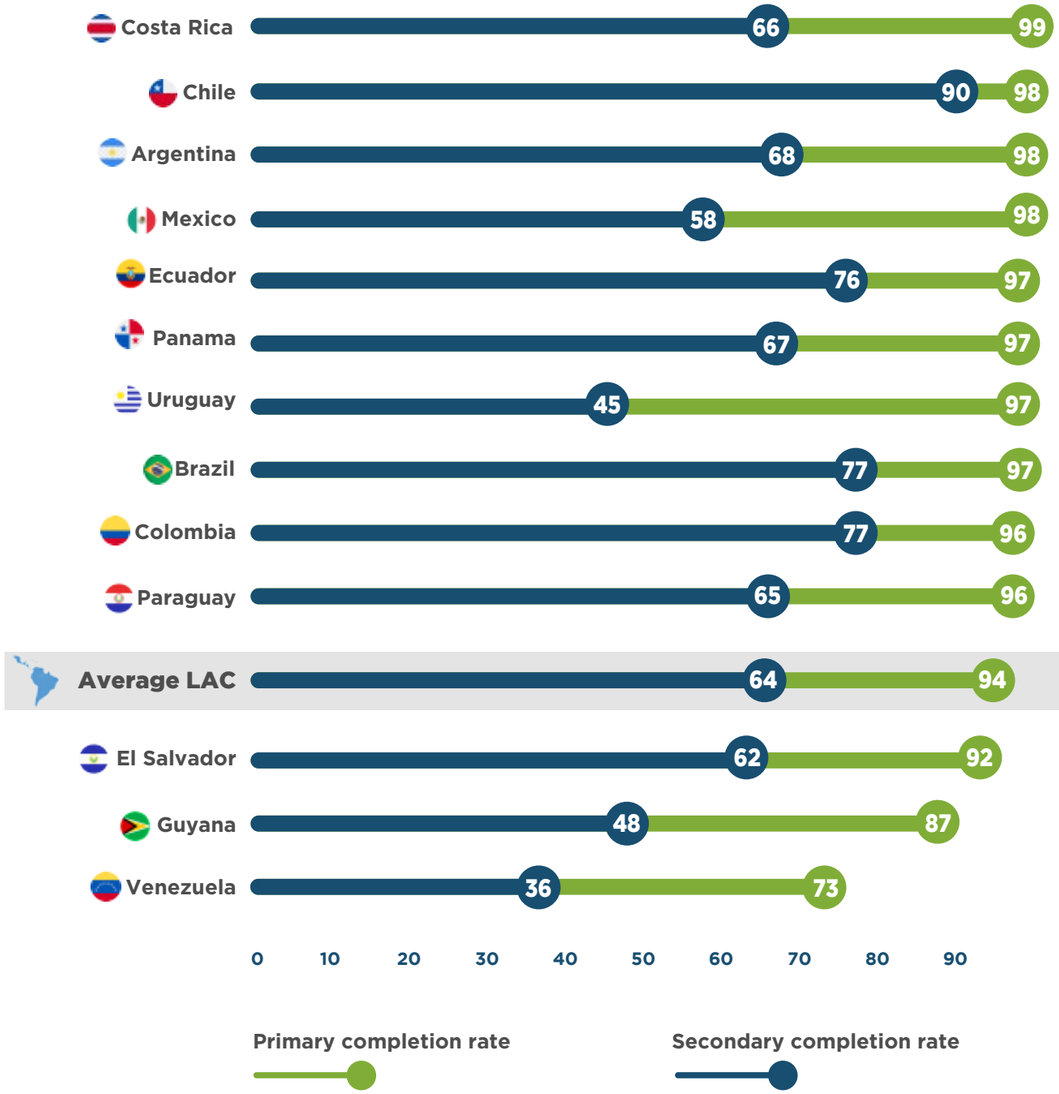
Finally, in terms of **completion**, the situation is different depending on whether primary or secondary education is analyzed (Morduchowicz and Pineda, forthcoming):

- In primary education, most countries have achieved universal coverage. The regional average for school completion6 is 94%, mainly because, in recent years, governments have focused their efforts on reducing the gaps in access to this level of education.
- In secondary school, the regional completion rate is 64%, which is 30 percentage points lower than in primary school. Thirty-six out of every 100 students fall between the two levels. Several countries in the region have percentages below this average (Figure 1.3).

Most of the countries have achieved universal coverage in primary education because governments have focused their efforts on reducing the gaps in access to this level of education.

By gender, completion gaps are persistent. Sixty-eight point seven percent of women complete secondary school, while only 61.5% of men do so, which is 7.2 percentage points less. In general, there is a decreasing trend in this gap in the region, in favor of women (Morduchowicz and Pineda, forthcoming).

Figure 1.3 Primary and secondary completion rates for Latin American and Caribbean countries (circa 2020)



Source: *adapted from the document "The educational state in Latin America and the Caribbean" (Morduchowicz and Pineda, forthcoming).*

The outlook can be discouraging, especially since many people are excluded from educational systems (**schooling**), and even those who are included are not able to obtain adequate learning (**performance**), and many of those who enter do not complete their studies (**completion**). In summary, Latin America needs structural improvements in education to more effectively support its growth and development.

1.2
The post-pandemic as an opportunity to improve educational policies

The region's educational backwardness persists and the pandemic has exacerbated and deepened its educational crisis. However, this situation places Latin America and the Caribbean at a crossroads. The COVID-19 pandemic has made visible problems that require urgent action and in some cases has generated interesting information and evidence to explore tools to help identify possible solutions.

All education systems in the region must find alternatives to the insufficient schooling of the population, the low and unequal learning performance, and the less than ideal secondary school completion rate. This requires a combination of structural policies with specific support for those students who are lagging behind.

It is necessary to strengthen learning processes in at least two aspects (Acevedo et al., 2021):

1. Basic skills, particularly for those most affected by the pandemic;

2. Social-emotional skills, such as those related to dialogue, collaboration, teamwork and empathy.

In practice, this means reinforcing, at a minimum, the mastery of foundational and socioemotional skills to facilitate the completion of basic education, and the transition from education to work. Although the effective incorporation of these basic skills in the education systems of Latin America and the Caribbean entails serious challenges, recognizing their importance and adopting innovative approaches can mark a turning point in the region's educational evolution (Mateo-Berganza, 2022).

The deterioration of students' mental health and social-emotional skills necessitates a new approach that considers them an integral part of any learning acceleration initiative (see Information Box 1.2).

Only with this type of strategy can students complete their basic studies and enhance their knowledge and skills. In fact, several countries have initiated emergency measures and programs to recover and accelerate learning, as mentioned in this publication.

Information Box 1.2

The impact of the pandemic on mental health and social-emotional skills

One of the most negative effects of COVID-19 has been the deterioration of students' mental health and socioemotional skills (Izquierdo et al., 2023).

A meta-analysis based on 21 studies from 11 countries reveals that a large proportion of children, adolescents, and young adults aged 3-34 years experience increased levels of depression, anxiety, and psychological stress since the onset of the pandemic (Kauhanen et al., 2022).

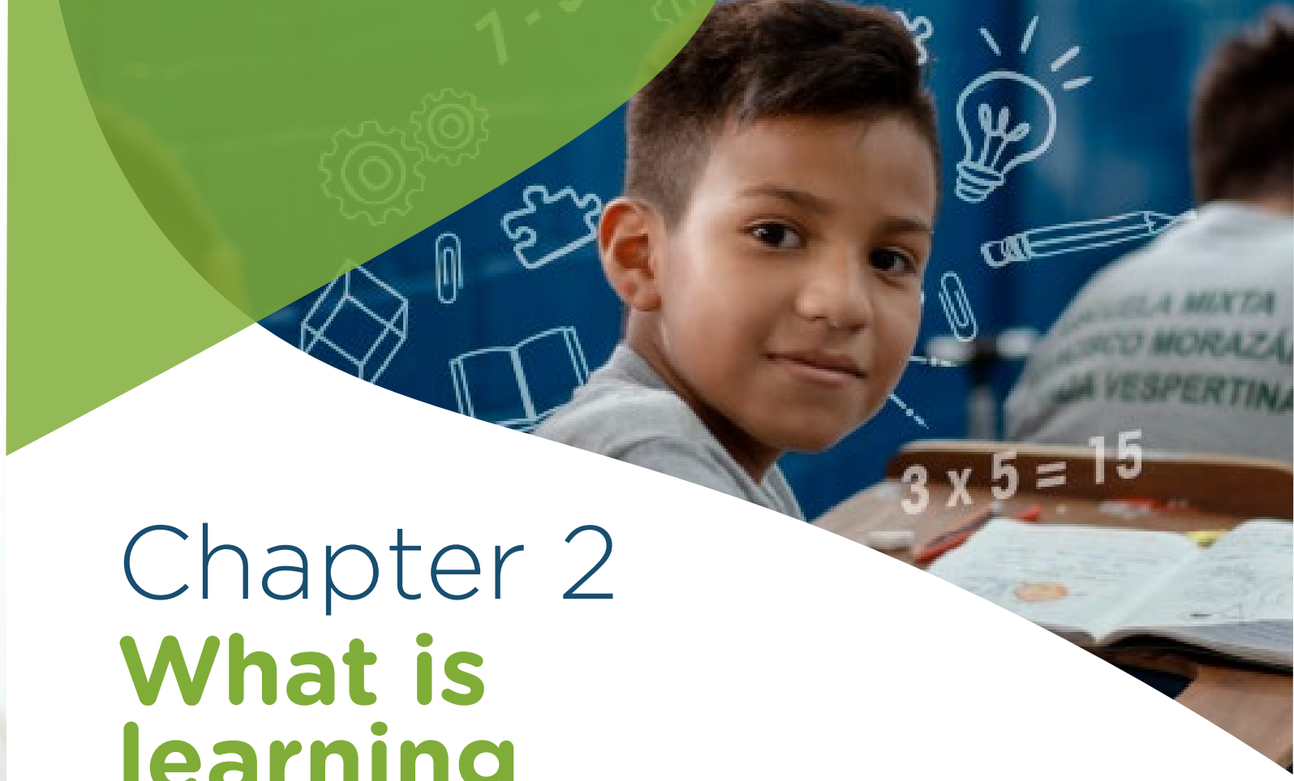
These findings coincide with those of UNICEF (2020b), which indicate that 43% of young people aged 15 to 23 years in 9 countries of Latin America and the Caribbean feel more pessimistic about the future than before the pandemic. In addition, 27% of them feel anxious and 15% feel depressed.

This report argues that it is essential to promote a deeper transformation to accelerate learning and that one possible step in this direction is the introduction of scalable and sustainable programs that can effectively improve learning for all students. The programs described here are proposed as a source of inspiration on this path. In this way, we strive to reduce disparities and gaps in the region so that fewer students have to suffer like Juan Esteban in order to access their right to receive an education.

The next chapter describes a conceptual framework for learning acceleration strategies, with a special focus on remote tutoring. The following chapters review the main results of this type of experience outside and within the region. The last chapter lists a series of conclusions and lessons learned from this evidence.

The programs described in this publication can be a useful tool for

first steps in the direction of a profound transformation to effectively accelerate learning



Chapter 2
What is learning acceleration?

This chapter was developed from the content of the following documents:

Acceleration of Education and Learning

Emma Näslund-Hadley
Download

Tendencias y desafíos
Intervenciones para recuperar aprendizajes escolares

Denise Vaillant
Download

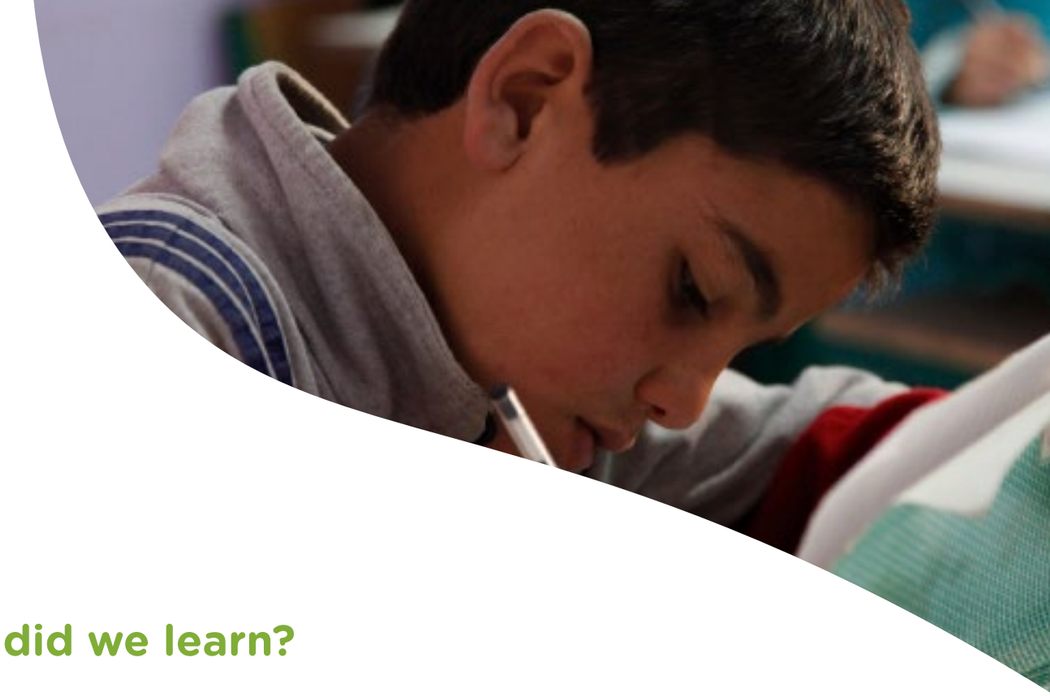
La unión que hace la fuerza
3 elementos para acelerar aprendizajes

Felipe Hevia
Download

Empatía y Aprendizajes
¿Por qué funcionan las tutorías?

Paulina Araneda
Download

2 What is learning acceleration?



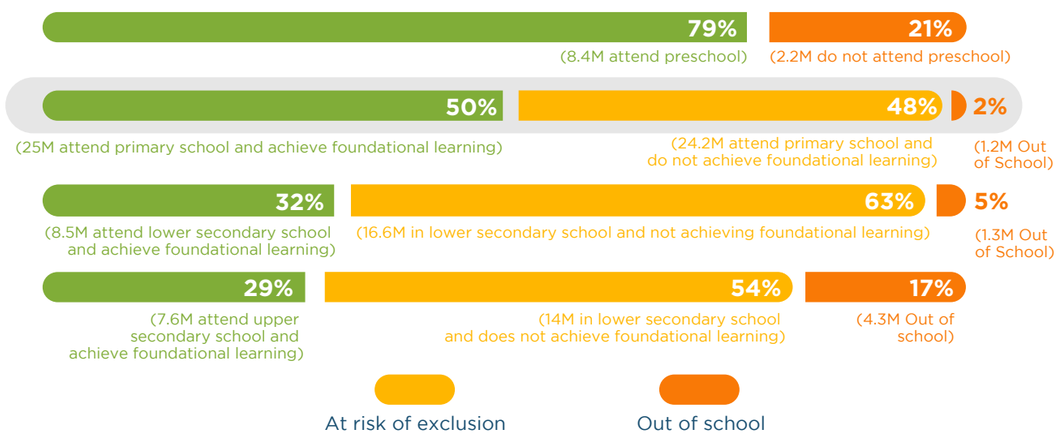
What did we learn?

- The learning crisis in Latin America and the Caribbean demands public policies focused on the accelerated recovery of foundational learning.
- Accelerating learning implies reducing the gap between the actual learning of all students and the expected educational level, particularly in foundational skills that foster continuous learning.
- Tutoring stands out as a particularly successful tool, which can be adapted to different contexts and combined with novel approaches such as learning at the right level or remote support through simple technologies already available in the vast majority of households in the region, even the most vulnerable.

Half of all sixth grade students do not achieve basic competencies in mathematics.

In Chapter 1 we outlined the magnitude of the learning crisis in Latin America and the Caribbean, which is clearly shown in an alarming figure: as can be seen in Figure 2.1, half of sixth grade students fail to develop basic competencies in mathematics. These lags accumulate and increase as educational trajectories progress, reinforcing the dynamics of exclusion. It is urgent to address these learning deficiencies, which have serious long-term consequences both for students, in terms of reduced academic and professional opportunities, and for society, in terms of human capital accumulation, equity and economic growth.

Figure 2.1 Educational trajectories in Latin America and the Caribbean



Source: *own elaboration from data gathered from Household Surveys from 2019 to 2022 in 14 countries of Latin America and the Caribbean.*
Note: *the founding learnings, or minimum learnings used, correspond to the internationally agreed upon report of the objective 4.1.1. from the United Nations Sustainable Development Objectives (UNESCO-UIS, 2017, 2018a). These were calculated from the students' percentage that reaches a level 2 or above on the international evaluations ERCE 2019, PISA 2018, and PIAS-D. Numbers close by decimal. By the rounding off effect the totals may slightly differ.*[7]

In this regard, this chapter provides three conceptual elements:

1. An analysis and discussion of some of the most relevant strategies, approaches and tools to address the problem, along with the definition of key concepts and terms used in this report;.

2. A presentation of a series of common elements in interventions that have been effective in combating the learning gap, and that help to build a proposal based on a clear and precise theory of change;

3. A postulation of remote tutoring as a scalable and cost-effective solution to accelerate learning, encourage graduation, and ensure that all students acquire foundational life skills.

2.1 Course repetition and remediation: two traditional inefficient strategies

Repetition and remediation are two traditional educational strategies without proven results (Näslund-Hadley, 2023).

- Repetition implies making students repeat a school year if they have not acquired minimum learning.
- Remediation refers to additional support programs provided to help students acquire specific skills or knowledge that they have not consolidated during their regular education.

Both strategies face significant criticisms. Repetition is costly and ineffective, and can have negative effects on classroom overcrowding. Remediation often focuses more on meeting curricular standards than on ensuring basic learning. In addition, both strategies can contribute to stigmatizing students who need extra help (Darling-Hammond et al., 2020).

Repetition is costly and ineffective. Remediation often focuses more on meeting curricular standards than on ensuring basic learning.

Combating inequality and improving the quality of learning requires a novel approach, based on personalized, flexible acceleration strategies, adapted to the context of each student, focused on fostering learning that allows students to improve their self-esteem and continue learning, always accompanied by continuous monitoring to progressively adapt and improve. These strategies should be focused on allowing students who are lagging behind in a particular area to catch up with the rest of their classmates and continue learning at the same pace as others.

2.2
How and why to accelerate learning?

The “learning acceleration” programs are characterized by:

- Seeking to personalize learning;
- Prioritizing foundational skills;
- Conducting constant monitoring focused on the development of competencies;
- Recognizing the importance of social-emotional skills.

The following box provides a deeper definition on learning accelerating.

Information Box 2.1

What does it mean to accelerate learning?[8]

“Acceleration” or “accelerated education” is difficult to define precisely because it is a concept that has been used in specialized literature to refer to a wide range of interventions ranging from special programs for children with high cognitive potential to certification programs for adults.

In one of its most frequent uses, acceleration refers to strategies that can target students from vulnerable sectors who are over-aged or out of the education system (AEWG, 2017; Mancebo and Vaillant, 2022). In this case, the concept of “acceleration” describes programs designed to enable students who are lagging behind to complete primary education and catch up with basic learning in order to advance more quickly (Baxter and Bethke, 2009).

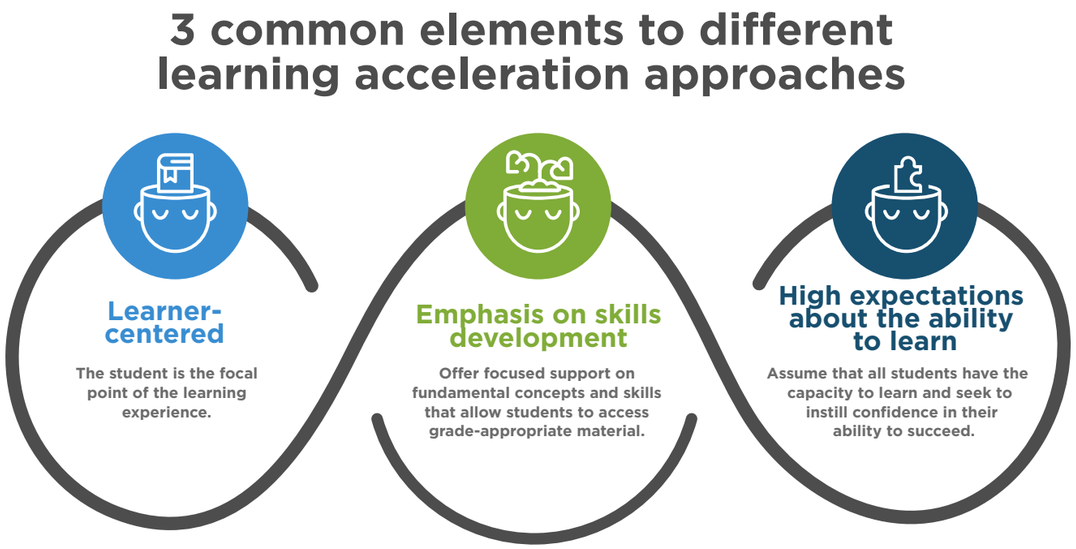
A second meaning refers to a multidimensional, multisensory approach that places the student at the center of the learning experience and incorporates lessons from psychology and neuroscience into pedagogical practices (Näslund-Hadley, 2023). From this perspective, acceleration does not attempt to concentrate the content of two school cycles into one, but rather attempts to focus attention on foundational skills and concepts that prepare students for the acquisition of grade-specific content (TNTP, 2021). In its most sophisticated versions, acceleration implies advanced training and in-depth knowledge of the curriculum by teachers to incorporate innovations in their pedagogical practice.

In this publication we adopt a definition of acceleration close to that suggested by Damani (2020), which encompasses all those “programs that seek to accelerate education, or help students who have fallen behind to reach the grade level that would be typical for their age.” It is a definition also similar to that recently adopted by the World Bank, which refers to acceleration as “broad efforts to ensure that every student acquires essential knowledge and skills as effectively and efficiently as possible” (World Bank, 2023).

Acceleration of learning goes beyond traditional remediation to the extent that it is oriented to facilitate future learning rather than to comply with curricular standards.

Accelerated learning goes beyond traditional remediation in that it is geared toward facilitating future learning rather than meeting curricular standards. It also involves putting the student at the center of the experience, raising expectations about his or her ability to learn, and focusing on the development of foundational skills (Figure 2.2).

Figure 2.2 Common elements to accelerate learning

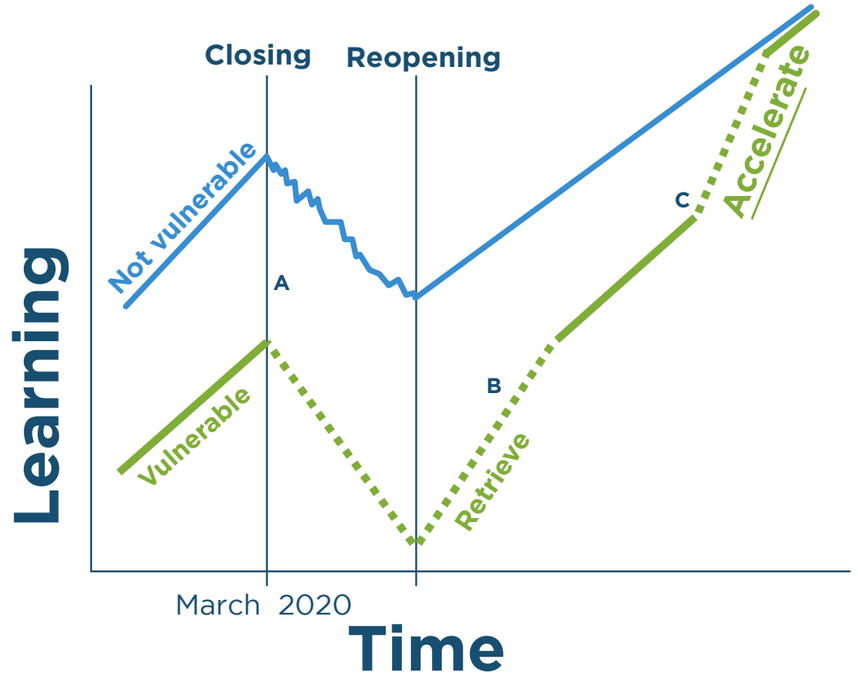


Source: *own elaboration based on Näslund-Hadley (2023).*

The temporary closure of schools during the pandemic has amplified the need and urgency to focus attention on foundational learning. A response is required that can accommodate the needs of a large portion of the student population, particularly the most vulnerable, those who already accumulated significant lags and were most affected by the school closures. From this perspective, accelerating also means minimizing exclusion and reducing inequity. The fact that those with the worst results improve faster facilitates the simultaneous achievement of substantial improvements, greater inclusion (understood as a higher proportion of students reaching basic learning standards), and reduced inequalities (that people's performance does not depend on their family or school context). Figure 2.3 shows the learning progress of vulnerable students who go through a learning acceleration program and the reduction of the gap with respect to non-vulnerable students.

Accelerating also means minimizing exclusion and reducing inequality

Figure 2.3. Accelerating learning to close learning gaps



A. With the pandemic, the gap between the vulnerable and non-vulnerable populations increased.
B. Recovery involves returning to the level that existed before the pandemic.
C. Accelerating with targeted programs allows for the closing of gaps

Source: *own elaboration.*

Learning acceleration programs can take different forms that vary according to their components and the context in which they are implemented

Learning acceleration programs can take different forms that vary according to the components that comprise them and the context in which they are implemented. Such variety presents both opportunities and challenges:

- The opportunity is based on flexibility to adapt plans to the needs and resources available;
- The challenge is to find the most effective among the multiple possible plans, to verify whether the necessary conditions for their success exist, and to determine the optimal configuration that will guarantee that the efforts of educational policy translate into higher levels of learning distributed equitably.

Acceleration tools vary within and outside of school institutions:

- If they are carried out within the school, it is possible to extend the formal education time with additional hours, adapt the pedagogical practices of teachers, or develop complementary in-person support mechanisms;
- Alternatives that involve leaving the classroom include tutoring (in person or remotely, with or without Internet access), or the use of specific software that does not require the direct intermediation of a teacher or tutor.

2.3
Why focus on remote tutoring?

Essentially, because they work. In the words of Susanna Loeb (2023), professor of education policy at Stanford University, "tutoring as a form of learning acceleration is supported by a large body of literature. The results for other types of interventions are not as strong."

A number of systematic reviews conducted in recent years to evaluate the impact of various interventions suggest that tutoring is effective in improving educational achievement, especially in vulnerable students.[9] Furthermore, several case studies from around the world show positive results in terms of its effectiveness.[10] Finally, there is evidence that tutoring helps to reduce educational inequalities.[11]

There is evidence that tutoring helps to reduce educational inequalities

However, the fact that the evidence on its effectiveness is conclusive does not dispel a number of questions about tutoring: is it cost-effective; that is, is it the most economical way to obtain these positive results; and, if so, what aspects or elements contribute to this effectiveness?

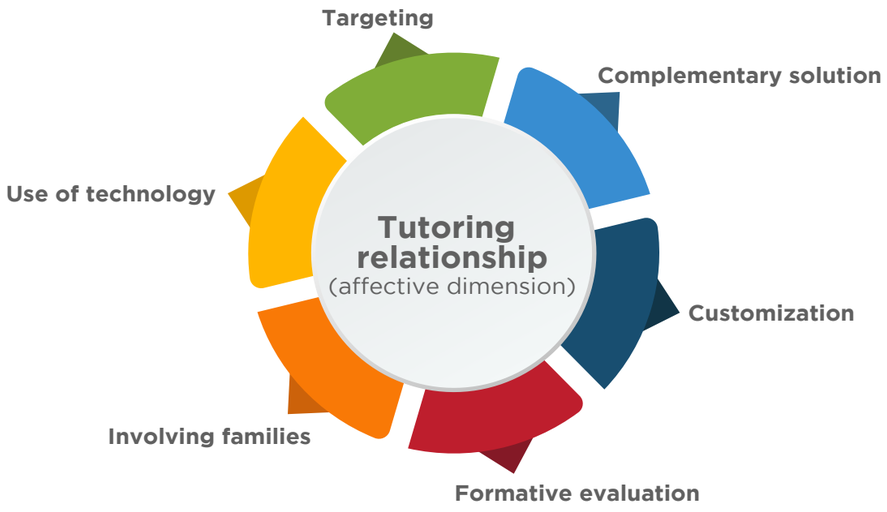
What is tutoring? According to the Educational Resources Information Center (ERIC) of the American Institute of Education Sciences, tutoring can be defined as "instruction provided to a student, or a small group of students, through direct interaction with a professional teacher, peer, or other person with appropriate training or experience" (ERIC, 2021). Another definition states that it is "the process through which a person with experience in the management of some skill or ability orients another with less experience to learn that skill or ability" (Rincón-Gallardo, 2013).

There are various types of tutoring. Some are supported at school during specific times. Others have been conducted outside school hours. They can be led by teachers, volunteers or even students in higher education. Generally, they have been carried out in person, although there are also remote experiences.

In this publication we focus on remote or remote tutoring, i.e. instances in which the tutor and the learner are not physically present in the same space, based on the strengthening of foundational skills, with personalized accompaniment adapted to the specific needs of each student and using accessible and low-cost technology, as a complementary, cost-effective and potentially scalable solution for the acceleration of learning in Latin America and the Caribbean.

Below, we discuss a number of elements conducive to learning that can serve as a basis for designing national tutoring programs to accelerate learning (Figure 2.4). While many of these elements constitute general principles of good pedagogy, carrying out these types of personalized interventions within the education system can be complex in the absence of comprehensive professional development policies for teachers, overcrowded classroom contexts, or lack of time and space to address the individual needs of each student. The agility of the remote tutoring model makes it possible to address these needs in a complementary way to what happens in the classroom. Moreover, it achieves this with a relatively inexpensive, easily adaptable and flexible intervention that does not require specialized personnel, and has the potential to generate a ripple effect in educational systems that decide to adopt it.

Figure 2.4 Elements conducive to learning in remote tutoring



Source: *own elaboration.*

2.3.1 Targeting to combat inequalities

A first element for a proposal of recovery or acceleration of learning through remote tutoring would be targeting, i.e., the need to provide complementary alternatives to those students who require it most. The objective should be simple but ambitious: to achieve a universal minimum of foundational learning in reading and mathematics, which is the key to accessing new concepts and higher learning. The importance of this element lies in the fact that intervening in time to reinforce foundational learning and combat lagging behind protects the educational trajectory. In other words, ensuring a strong foundation is a preventive measure to fight dropout in the medium and long term (Gortazar et al., 2022).

Intervening in time to reinforce foundational learnings and combating lagging behind protects educational trajectory.

Developing complementary systems to reinforce learning implies an investment and mobilization of additional resources. The agility of this type of program makes it possible to define targeting criteria according to the needs and preferences established within the framework of each educational system. Remote tutoring offers the possibility of intervening in a timely manner in response to the specific support needs of students at different times. Particularly in the case of disadvantaged groups, tutoring could become a targeted policy that provides greater learning opportunities to students who often have less access to complementary support and who are otherwise pushed further and further behind and eventually become early school dropouts.[12] Furthermore, as the scientific literature summarized in Chapters 3 and 4 of this report demonstrates, there is evidence that the impact of this type of intervention is greater for socioeconomically disadvantaged students.

Focusing on the most disadvantaged makes sense from an inclusion perspective; to help all students learn foundational skills that will enable them to complete basic education and improve their prospects for the labor market. It also makes economic sense: Hanushek and Woessman (2010) show the enormous economic benefit that can be derived from raising countries' average PISA test scores focusing on low-performing students (2010). Finally, there is evidence, at least among Latin American countries, that in the countries that have experienced the most improvement, it was the students who lagged the furthest behind who led these improvements with the highest rates of growth in their performance (PISA in Focus, 2015).

2.3.2 Complementary solutions in close coordination with the education system

A learning acceleration system at scale will be effective to the extent that it is integrated with each school community.

Although remote tutoring is an additional opportunity outside of what is traditionally provided by educational systems for the consolidation of foundational learning and socioemotional reinforcement, it is not a parallel system or a system detached from the daily operations developed in the school. On the contrary, a learning acceleration system at scale will be effective to the extent that it manages to integrate with each school community and is coordinated by the educational authorities. Tutoring programs should be understood as a complementary element to the school process and as a supportive space for teachers, families and students.

Only by involving and empowering school communities, i.e., principals, teachers, and students' homes—beyond the necessary coordination with national authorities such as ministries of education—the implementation of alternative teaching formats and models can be ensured. The virtue of these complementary solutions lies in reinforcing the learning processes that take place in the classroom and providing students with an experience of academic achievement that increases their motivation (especially intrinsic), which they may never experience in the context of a large and diverse group such as the ones found in most classrooms in the region.

One of the objectives of tutoring is to improve students' self-confidence and self-esteem.

The participation of teachers and principals should be ensured from the design phase, and it is essential to identify and refer students who can most benefit from this type of intervention. As we will see below, one of the objectives of tutoring is to improve students' self-confidence and self-esteem, i.e., it focuses on both the academic and the emotional part of the learning process.

2.3.3 Tutor relationship

Tutoring sessions are characterized by a "basic core" that in the literature is known as a "tutoring relationship," defined as "the meeting of those who wish to learn a specific competence with those who possess that competence and provide what is necessary for the other to assimilate it. This tutoring relationship (...) produces quality learning and teacher satisfaction" (Cámara, 2008).

Three fundamental dimensions are evident in the tutoring relationship to ensure meaningful learning (Figure 2.5):

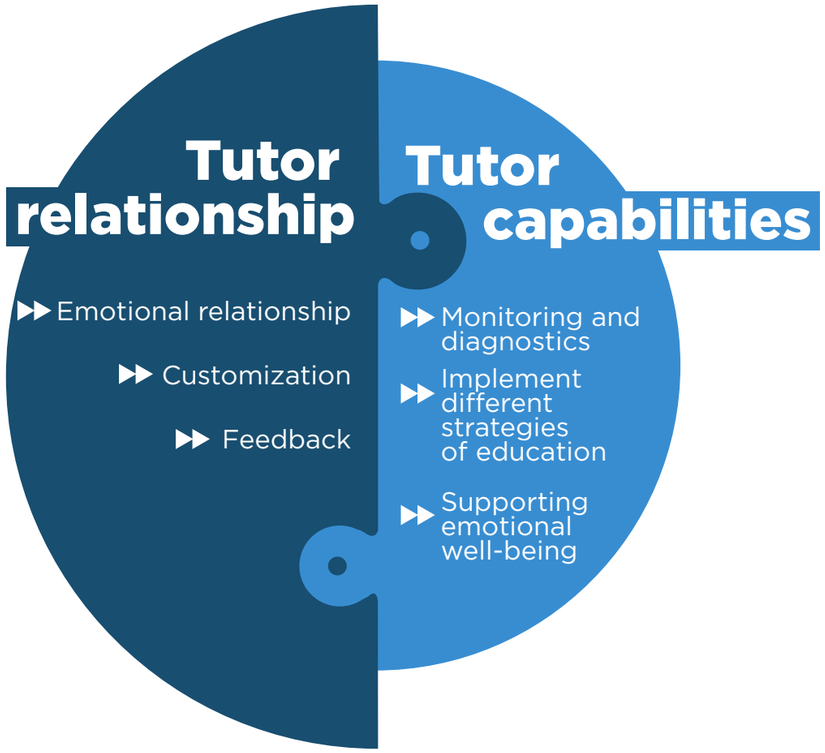
1. The importance of emotions.
2. The possibility of personalizing and adapting teaching to the specific needs of each student;
3. The feedback involved in this relationship.

Thanks to the emotional element and the personalization of the teaching process, tutoring sessions involve interaction that encourages students to become active and constructive observers (Chi et al., 2008). Such interaction also promote linguistic and communicative competencies that are fundamental to teaching, particularly through the generation of dialogue and the possibility of constructing knowledge in a reflective way, taking advantage of questions and answers to build inferences (Roscoe and Chi, 2008). Feedback – both positive and negative – functions as a fundamental element of the tutoring relationship (Brummernhenrich and Jucks, 2013). It can also foster deep learning and metacognition, i.e. learning not only the foundational concepts but also the strategies that enable that achievement in each individual case in a reflective manner through dialogue between the learner and the tutor.

For all of this, it is essential that tutors are well prepared and selected. They must have skills that enable them to perform three key activities:

1. Conduct diagnostic evaluations;
2. Implement new pedagogical strategies to improve teaching effectiveness;
3. Support students in their self-esteem and emotional well-being.

Figure 2.5 Dimensions of the tutoring relationship



Source: *own elaboration based on Hevia (2023).*

To design a successful high-impact program, it is essential to set explicit objectives for each initiative, such as accelerating the learning of the students who are furthest behind, engaging dropouts, or improving the performance of all students in specific priority areas in reading or mathematics.

If clear learning objectives are not established, there is a danger of tutors' teams losing the direction of their work

If clear learning objectives are not set, there is a danger that tutor teams will lose direction in their work. It is also necessary to give precise and easy-to-follow instructions to tutors whose preparation or experience may be less than that of classroom teachers. Finally, in an advanced and mature model, it is necessary to find ways of communication and mutual learning between tutors and classroom teachers.

2.3.4 Learning personalization

Tutoring involves the development of a personal relationship, in which a bond of care is established with the other person.

A characteristic element of tutoring is the possibility of individual instruction and effective learning for each child. Far from the standardization implied by classroom teaching, a tutoring relationship implies knowing each child well, and knowing exactly what he or she needs. For this reason, it is preferable that tutors have prior knowledge and an assessment of the children being tutored.[13]

Tutoring spaces should be based on the recognition of diversity in learning trajectories (Hevia et al., 2022), in order to guarantee a customized education, where students are and feel respected in their differences and needs, and can develop at their own pace and level. This will allow them to become more empowered and active subjects, recognized by peers and teachers, so that they can gradually redefine their learning trajectories.

Tutoring and accelerated learning spaces are not experiences that frustrate the individual. On the contrary, they allow the student to develop a sense of belonging in his or her bond with the tutor and in the learning experience with his or her peers. The student becomes involved with the tutor in a bond and a space where the ideal is that they accept each other as 'legitimate others' in coexistence and co-emotion (Dávila and Maturana, 2009). In this sense, bonds become facilitators and enablers of learning, but also contribute to a more favorable attitude towards school and the socioemotional well-being of students (Hevia et al., 2022, Zoido et al., 2022).

2.3.5 Strengthening and promoting emotional and affective dimension of learning

One of the keys to tutoring, in addition to academic support, is emotional support. A tutor provides a constant presence and a close supportive environment that can be particularly important for those students who feel discouraged or unmotivated with their academic situation.

Tutoring has the power to enable students to change their self-image and find meaning in their education.

The active and determining role of emotions in the learning process is a widely established concept (Bransford et al., 2000), and the central element of the tutoring relationship is precisely the relationship generated between the tutor and the tutored (Cámara, 2010; White et al., 2021). Tutoring involves the development of a personal relationship, in which a bond of care is established towards the other. This is particularly powerful when there is a recognition of mutual learning and the relationships are more horizontal, as the tutor supports the student and, on many occasions, the tutored student becomes a tutor to others (Camara, 2010). In remote telephone tutoring, where this bond must be built by voice, often without knowing each other personally, establishing an affective relationship is a challenge recognized by tutors and tutored students (Hevia et al., 2023). Nevertheless, it is something not only possible but, in fact, common in the case studies that have tested this remote method in Latin America and other regions of the world (Székely et al., 2022).

Most of the students who participate in tutoring have had their self-perceptions affected by the "failure" experiences they have undergone in the educational system, such as repetition or exclusion. These experiences not only limit learning achievement, but also impact the self-image they construct and the value they place on themselves, questioning their intellectual and social capabilities (Alvarado et al., 2014).

Therefore, tutoring has the power to allow students to change that self-image and empower themselves, to find meaning in their education and to understand that learning is an experience that they can live in first person. In this sense, the activity and commitment of the learner are essential, since the learning that really influences a person's behavior is that which he/she manages to discover for him/herself and which he/she can appropriate (Rogers and Freiberg, 1994).

2.3.6 Formative evaluation

Formative assessments should be seen as an opportunity for learning rather than a simple qualification or accreditation (Andrade and Heritage, 2017), since they are crucial to improve teaching and learning. From the evaluation comes the information that will allow the teacher to detect the factors that hinder or favor the learning process and, from there, implement improvements and corrections (Black and Wiliam, 2009).

Tutoring support starts at the level demonstrated by each student, and not the one he or she should have according to grade level or age.

Formative assessments allow tutoring sessions to be developed using teaching-based pedagogies at the appropriate level. Information Box 2.2 defines such pedagogies. The diagnosis and monitoring of educational achievement makes it possible to identify, for each student, the appropriate level through formative assessments that are easy to apply and interpret. Thus, tutoring support starts at the level that each individual demonstrates, and not at the level he/she should have according to school grade or age. This allows them to build their learning from this base, in addition to increasing their motivation and other executive functions that are fundamental for educational achievement (Hevia et al., 2022a).

Information Box 2.2

Teaching at the Right Level[14]

"Teaching at the Right Level" (TaRL) is an approach that stands out for demonstrating positive learning outcomes with evidence.

TaRL's fundamental objective is to increase foundational learning in reading and mathematics. Under this approach, learning groups are formed with students of the same or different ages, and activities are offered that are adapted to different levels. Each student participates in collective learning activities adapted to his or her actual learning level, and is accompanied by a teacher or tutor.

This targeting and personalization of programs is more effective in addressing the learning loss of students who are falling behind and thus benefiting their peers in the classroom. By accelerating catch-up in basic learning, TaRL helps reduce educational gaps within classrooms (Angrist et al., 2020; Banerji and Chavan, 2016). Typically, TaRL is implemented as short-term learning camps, with three distinguishing features:

1. Assigning students to groups according to their proficiency levels, especially in literacy and mathematics. This is achieved through diagnostic assessments that allow students to be organized by their actual, rather than expected, level of learning;

2. The development of various collective learning activities designed for each level;

3. A frequent and final evaluation of the progress made.

The TaRL approach is part of learning acceleration programs and is usually aimed at generating educational equity processes, reducing the disproportionate effects of the pandemic among the poorest and most excluded. Recent research on the different programs that use TaRL demonstrates its impact in narrowing the gaps, whether of gender, socioeconomic level, type of rural-urban locality, or disability status, that characterize the education systems of many countries (Hevia, Vergara-Lope, et al., 2022b; Hevia and Vergara-Lope, 2022b).

This approach has proven to be effective in recovering and accelerating learning, and is a relevant option to address the educational emergency resulting from the closure of schools due to the COVID-19 pandemic in Latin America and the Caribbean.

In fact, TaRL has been one of the most rigorously evaluated educational interventions (J-PAL, 2022), with high cost-effectiveness (Angrist et al., 2020)15 and joint analyses16 such as Abdul Latif Jameel Poverty Action Lab (J-PAL) and Pratham (Banerji and Chavan, 2016).

In Latin America and the Caribbean, evidence was, until very recently, scarce. In 2018, summer programs using the TaRL model were evaluated and impacts ranging from 0.43 standard deviations17 in reading to 0.56 in mathematics were identified (Hevia et al., 2021; Hevia et al., 2022a; Hevia and Vergara-Lope, 2022b). Chapter 4 reports on the new evidence for different interventions with this approach in the region.

2.3.7 Involving families

An element that is often neglected in some educational reflections and that is essential to incorporate in this discussion is the role of families. In many cases of absenteeism, dropping out or falling behind in school, the student's environment has a direct influence on his or her performance and decisions, including whether or not to remain in the system. Having adults and a family that supports the student's link with the educational processes is fundamental to ensure the right to their education (Alvarado et al., 2014).

To be successful, tutoring must include families. This makes it easier for both the student and his or her environment to find meaning in the learning process, which also allows the student to count on external support to continue in the system.

To be successful, tutoring must include families.

In order to involve families, it is key to develop informative strategies where they can receive information about:

- Students' actual performance, as well as their ability to learn with the necessary support;
- Progress and the most effective learning strategies for each student;
- The benefits of continuing and completing studies;
- The possible educational and employment paths.

At the same time, it is critical to consider families an essential learning space, giving value to their knowledge and skills to accompany the students'.

At the same time, it is critical to consider families as an indispensable learning space, valuing their knowledge and their ability to accompany students.

This accompaniment helps to strengthen students' commitment to the school process and to reinforce their perception of themselves as learners, capable of facing challenges and new situations, and of overcoming problems through effort and work. It also favors the students' perception that their families value their education, are interested in their performance, and are available to support them, if not academically, at least emotionally. In other words, they can enhance what is known as the growth mindset, not only in students, but also in their families and teachers.

2.3.8 Technology and cost-effectiveness

The experience described in this report demonstrates that tutoring can be carried out economically and with or without the need to incorporate advanced technology, since it is flexible and adaptable to the contexts in which it is developed. Tutoring sessions use tools that allow not only zero cost for students and families but, also a low investment cost in absolute and relative terms for the educational systems of the region (Hevia et.al, 2022, Zoido et.al, 2022).

In the context of the pandemic, tutoring has adopted a remote method and has been the subject of several investigations due to its importance in the fight against educational emergencies worldwide, being recommended as a necessary strategy to accelerate learning (Davidson and Woodward, 2021).[18]

The affective relationship that is built in the "tutoring relationship" also manifests itself through telephone communications

In remote and hard-to-reach locations, the use of resources such as phone calls, text messaging, and volunteer tutors allows access for students with low connectivity (Zoido et al., 2022). Emerging evidence on the use of telephone tutoring (as discussed in Chapter 3) is promising, suggesting that it can generate positive effects on academic performance and the reduction of numeric illiteracy (Angrist et al., 2022 and Chapter 3). These evaluations show that the affective relationship that is built in the "tutoring relationship" is also manifested through telephone communications.

There has been evidence of the successful use of telephone calls in the field of education19 for a long time (Flinck, 1975). However, at the beginning of the 21st century, the development of technologies requiring Internet connectivity displaced the telephone call as a teaching-learning resource. Hence, many of the pedagogical options linked to school closures in the pandemic were linked to Internet platforms (messaging and videoconferencing) or unidirectional media (such as radio or television) (Hevia and Vergara-Lope, 2022a). This has enabled the telephone to be an effective means of interaction and personalized communication between students and teachers.

In a comprehensive plan to accelerate learning in low connectivity contexts, the telephone is a possible channel to develop a tutoring relationship, since it is a concrete way to include the population with lower connectivity and to facilitate the personalization and adaptation of teaching to each child (Hevia et al., 2023).

In contexts of high connectivity, tutoring can be carried out using technologies such as videoconferencing, which give better results when combining synchronous actions, with simultaneous connection of tutors and tutored, and asynchronous, with lessons and exercises to be solved in one's own time (Johns and Mills, 2021). With the support of electronic games, these technologies can be effective in improving mathematical skills and overall educational performance (Roschelle et al., 2020). In addition, the combination of collaborative and individual work in tutoring can also be more effective with technological support (Olsen et al., 2017).

The positive effects of online and telephone tutoring have not only been verified during the pandemic, as there is relevant evidence that includes periods spanning the return to in-person schooling (see Chapter 3) and times prior to COVID-19 (De Smet et al., 2010). The evidence is accumulating and points to tutoring as an effective tool for improving student learning and socioemotional well-being in both high- and low-connected contexts.

2.4
Accelerating learning through remote tutoring

The pandemic generated more urgency to activate measures targeting students who are lagging behind. The learning shock of school closures and the uneven manner in which their impact manifested itself have left large cohorts with insufficient learning that need attention without delay. The enormous urgency of the crisis also promoted targets with rapid impact.

Accelerating learning is the most interesting option in this context, and it extends to girls and boys who have not necessarily been left out of the system or are formally repeating or over-aged, but who still accumulate significant lags, probably accentuated by the generalized closure of schools.

The tutoring processes present in most learning recovery programs are valuable tools for preventing school lag and dropout by giving students the academic and emotional support they need to succeed in their education. Tutoring provides a personalized learning environment where students can ask questions and receive immediate feedback on their problems and difficulties. This helps them feel more confident and motivated to learn, which in turn can improve their performance and decrease the likelihood of dropping out of school.

It is feasible to accelerate learning not only to recover, but to go beyond, especially when educational outcomes are low and unequal.

Tutoring sessions have traditionally been in-person. The pandemic "virtualized" them, for obvious reasons, and this allowed us to verify that physical presence in the tutor relationship is not necessary for it to produce results. The result is that remote tutoring has become an alternative for channeling programs that accelerate lagging learning, and can be provided with different technologies, including telephone calls.

It is also possible that acceleration is not limited to reaching the theoretical level expected by in-person education. Thinking about the need to recover learning presupposes an optimal level that students at different educational levels must acquire. But it is also feasible to accelerate learning not only to catch up, but to go beyond, especially in countries such as those of Latin America and the Caribbean, where educational results are not only relatively low but also widely unequal.

Complementing the education provided in the classroom and shaping educational policies that unleash the potential of girls and boys to increase their learning levels and reduce inequality appears to be a primary objective for Latin American and Caribbean countries. Accelerating learning through remote tutoring with low technological requirements offers an opportunity to address this objective. This opportunity requires empirical validation to support its recommendation. As we will see in Chapter 3, the emerging evidence is promising.

Chapter 3
Global Impact: experiences in Asia, Africa, and Europe

This chapter was developed from the content of the following documents:

Africa and Asia
Successful Global Tutoring Experiences: ConnectEd

Noam Angrist,
Colin Crossley,
Claire Cullen

Download

Spain
A Successful Experience of Remote Tutoring

Lucas Gortázar,
Claudia Hupkau,
Antonio Roldán

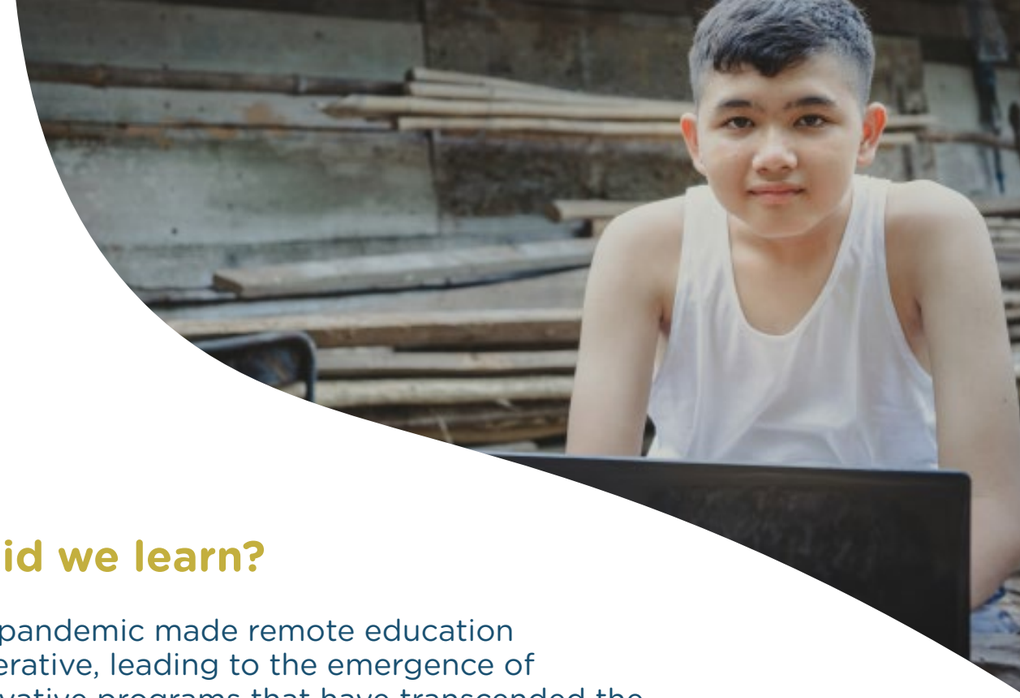
Download

Italy
Tutoring Online Program (TOP): A Successful Global Experience

Michela Carlana,
Gaia Gaudenzi,
Eliana La Ferrara

Download

3 Global Impact: experiences in Asia, Africa, and Europe



What did we learn?

- The pandemic made remote education imperative, leading to the emergence of innovative programs that have transcended the crisis.

- Remote tutoring has become a cost-effective tool to promote learning in diverse contexts, employing different tutor profiles and adapting the technology to the particularities of each case.

- Scientific studies highlight the value of the bond created between tutor and student through personalized instruction, tailored to the context and individual needs of each student.

- This strategy is even more relevant for vulnerable students, who may feel neglected in the traditional education system, and need extra care to experience, perhaps for the first time, academic achievement that builds their self-confidence.

- Beyond the pandemic, global evidence suggests that remote tutoring is an effective solution for accelerating learning in a variety of educational situations and addressing structural challenges such as inequality in educational performance.

The COVID-19 health crisis and associated school closures hit the educational process of millions of students around the world very hard. Learning losses were profound and unevenly distributed, for example, by household socioeconomic and cultural status. The pandemic also impaired the socioemotional well-being of school-age children and youth. Finally, the lack of interaction with other students and teachers impaired socialization and, consequently, the ability to develop socioemotional skills outside the home environment. As Chapter 1 reflects, despite the return to in-person schooling after the pandemic, the effects of school closures persist, leaving traces in the academic and socioemotional capacities of a large part of the student population.

In many Latin American and Caribbean countries, school closures came as a shock to education systems marked by structural problems of low and unequal learning levels. As argued in Chapter 2, the pandemic accentuated the need to accelerate learning and to seek tools focused on students who were lagging behind in their education.

This learning acceleration method offers flexibility in educational offerings at a relatively low cost of implementation, which facilitates its reach to a large number of young people, including potentially to remote households.

Remote tutoring programs are among the tools adopted by different countries to address the negative impact of school closures, and the inequality of their effects.20 As we discussed in Chapter 2, this method of accelerated learning offers flexibility in the educational offer with a relatively low implementation cost, which facilitates its reach to a large number of young people, potentially including households in remote locations where it is more difficult to provide in-person tutoring. These characteristics of remote tutoring are particularly relevant in disadvantaged, hard-to-reach populations and countries with a need to serve this population in a cost-effective manner.

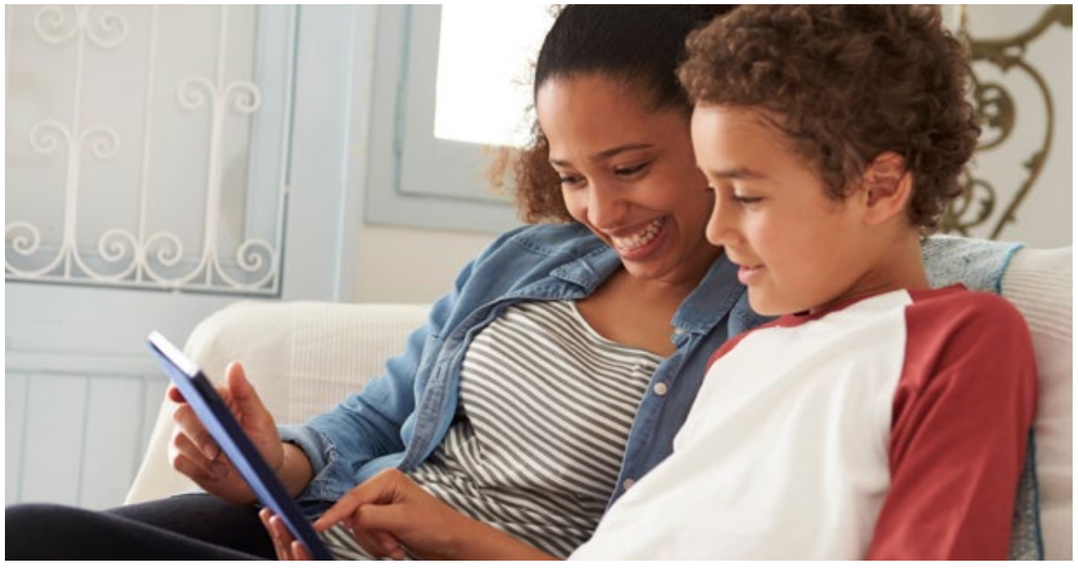
Early remote tutoring programs during the pandemic built on the success of in-person tutoring in generating positive educational impacts (Nickow et al., 2020). In remote tutoring, evidence emerged from a growing number of programs that were studied using rigorous impact evaluation methodologies, such as Randomized Controlled Trials (RCTs).

The results consistently suggest important effects of all tutoring on academic learning and socioemotional well-being. These results are strong regardless of students' age and educational level (in elementary and junior high schools), the professional tutor profile (teachers, volunteers, people with The results consistently suggest a significant impact of tutoring on academic learning and socioemotional well-being. These results are robust regardless of the age and educational level of the students (in primary and secondary schools), the professional profile of the tutor (teachers, volunteers and people without a previous specialization in education), and the technology employed (videoconferencing, video-call and voice calls on the cell phone). These strategies, moreover, were successfully applied in very different contexts.

In this chapter we discuss the main lessons learned and characteristics of three remote tutoring interventions whose ability to induce improvements in the learning process was rigorously evaluated:[21]

1. Menttores in Spain (Gortazar et al., 2023);
2. Tutoring Online Program (TOP) in Italy (Carlana and La Ferrara, 2021; Carlana et al., 2023);
3. ConnectEd in India, Kenya, Nepal, the Philippines, and Uganda, although the first implementation took place in Botswana (Angrist et al., 2020; Angrist, Bergman, and Matsheng, 2022; Angrist et al., 2023).

Throughout this chapter, examples of national tutoring programs implemented in various countries will also be highlighted, including a description of their costs and characteristics (Information Boxes 3.1 - 3.6).



3.1 Lessons learned, potential and challenges

Experiences outside the region have generated a number of lessons about the dynamics, implementation and effects of remote tutoring. In this section, the lessons learned in terms of educational policy will be discussed first. Next, the conclusions reached from the point of view of practical application in the field of remote tutoring will be examined. Finally, an analysis of the emerging challenges and opportunities in this area is presented.

3.1.1 Orientations for education policies

Amidst the challenges of COVID-19, remote tutoring programs have demonstrated their potential to transform learning processes in different populations and increase the quality and inclusiveness of public education services at a systemic level.

The experiences analyzed below demonstrate that these programs have emerged as a promising solution to address the learning gaps and socioemotional needs of students, with the added advantage that their cost-effectiveness allows them to be scaled up and targeted to the most disadvantaged, those with special needs, or populations with access difficulties. Beyond an emergency solution, remote tutoring is a viable tool to address structural problems or particularly challenging situations.

The future possibilities for remote tutoring are great. Their inclusion in a publicly funded national education program could generalize the use of these educational practices and include students from households with limited resources who cannot afford them individually in the private tutoring market.[22] This could allow education authorities to play a regulatory and quality assurance role, as well as potentially improving private provision.

Remote tutoring is a complement to the school educational environment, so it does not replace classroom work or in-person tutoring.

It is important to note that remote tutoring is a complement to the school educational environment, so it is not a substitute for classroom work or in-person tutoring. The adoption and scaling of remote tutoring within the educational system can have three highly beneficial consequences:

- An impact especially relevant for low-income or lagging students, which in turn would contain and reverse the widening of pre-existing educational gaps or those caused by the pandemic;
- Benefit, at least in certain environments, a considerable part of the student population;
- An easy-to-implement solution in contexts of budgetary and geographic constraints.

3.1.2 Lessons on program application in practice

Individual tutoring or small groups?

While most tutoring is personalized and involves one student, the case of Menttores in Spain shows auspicious results with tutoring oriented to groups of two students when more sophisticated technology is used. It is also possible that a peer tutoring scheme will encourage greater collaboration among students and thus further stimulate the learning process, as well as reduce per-student costs. However, depersonalizing tutoring can disperse the attention of those being tutored and dilute its effects. Determining the optimal composition of tutoring sessions, therefore, is a pending exercise of great interest for future program design.

What should be the tutor's profile?

The possibility of using university students as volunteers and appealing to their social commitments significantly reduces the cost of tutoring and can mitigate the shortage of highly trained teachers that characterizes some countries. In addition, this tutoring experience has benefits for the tutors themselves. For example, for those tutors who are studying teaching programs, tutoring is a direct opportunity to gain relevant experience for their future as educators. For students in psychology and other disciplines, although tutoring may not necessarily lead to a career in education, it can provide them with transferable skills and practical knowledge applicable in a variety of professional settings. This professional practice can be recognized by postsecondary education institutions and become an incentive for participation in tutoring.

Finally, it can also prove to be valuable experience in the growing private tutoring market, which demands trained and experienced tutors in both in-person and remote forms.

However, this alternative is not possible in all cases, as the experience in Spain shows. In fact, a long-term sustainable tutoring offer necessarily entails an increase in the demand for tutors. Moreover, if it is a volunteer program, there is evidence that its scaling, and particularly sustainability, may pose a major challenge (Nickow et al., 2020; White et al., 2021).

The traditional shortage of qualified mathematics and science teachers seems to have worsened in recent years (Santiago, 2002), which creates incentives to seek innovative responses, but also poses a challenge to the scaling up of remote tutoring programs. A large-scale program that addresses the educational needs of millions of students requires a supply of tutors that has not yet been identified and will eventually generate a new labor market. Solving this problem will require that tutoring expansion include strategies to increase the supply of tutors.

There is also the issue of the growing demand for private tutoring, which may increase the difficulties in finding appropriate tutors for public programs and also generate a new source of heterogeneity in the quality of educational provision. As long as a sufficient supply of good tutors is not obtained, a large-scale remote tutoring program may reproduce inequalities similar to those observed in the assignment of teachers among students of different socioeconomic and cultural levels. However, public remote tutoring may also offer an interesting market for teachers by giving them the possibility of improving their experience and qualifications and, therefore, the value of their services in the private market.

3.1.3 Challenges and opportunities

As long as a sufficient supply of good tutors is not obtained, a large-scale remote tutoring program may reproduce inequalities similar to those observed in the assignment of teachers among students of different socioeconomic and cultural backgrounds.

1. Tutors' motivation and continuance

Remote tutoring programs face similar challenges in terms of tutor retention and motivation, regardless of whether tutors are university student volunteers or professional teachers. At times, some tutors may find themselves in difficult situations, having to work with unmotivated colleagues or having difficulty establishing a trusting connection with their students. This can lead to high rates of tutor turnover, which damages the effectiveness of the program by disrupting the gains associated with the experience tutors can accumulate through repetition.

To address this problem, initiatives have implemented measures such as monetary incentives to encourage the participation of tutors and to encourage them to remain committed to the program until its completion. In the case of Italy, tutors who successfully complete the program are awarded a joint certificate from Bocconi University and Harvard University.23 However, determining the optimal level of incentives is a challenge that requires further research, as there is a risk that they may crowd out tutors' intrinsic motivation to participate.

2. Access to devices and digital literacy.

This is a crucial component for success, as in order to have the tutoring students must have access to a device (in several cases, with internet access) and possess the necessary skills to use it proficiently. However, there are families that may have trouble acquiring a device due to financial constraints or lack of digital literacy necessary to enroll and maintain engagement in the program. Strategic partnerships with NGOs or government programs can be vital in providing access to devices and digital literacy. In addition, experiences from Botswana, India, Nepal, Kenya, the Philippines and Uganda show that the Internet can be substituted with phone calls.

There are families that have problems acquiring a device due to financial constraints or lack of the digital literacy necessary to enroll and maintain engagement with the program.

Regardless, it remains to be seen how this adaptability in technological requirements may increase the demand for tutors' skills, which would require a greater supply of highly trained teachers.

3. Tutor–student relationship.

The value of remote tutoring, compared to other learning formats such as Computer Assisted Learning (CAL), is that it preserves the tutor-student relationship at a low cost. The medium used to maintain this relationship is simply an intermediary (i.e., a device). The personalized interaction and direct support offered by remote tutoring not only reinforces the learning experience, but also allows for more effective adaptation and feedback according to the needs and pace of each student. The three programs we present in the chapter show these differences in the intermediary, but the key to the approach is the tutor-student relationship, especially in TOP and Menttores, where the emphasis is on tutor training.

4. Tutor supply for specific subjects.

The programs in Italy and Spain had difficulty recruiting an adequate number of tutors competent in mathematics, which posed a serious challenge, since most of the students required help in that subject. In Italy, the problem was solved by using university students. In Spain this was not possible, so professional teachers had to be employed.

5. Partnership with nonprofit organizations.

Expanding remote tutoring programs to other regions and countries will generate additional coordination costs. To address this challenge, partnerships with civil society groups, NGOs or international organizations that have experience with educational programs in disadvantaged contexts is possible. By leveraging their knowledge and resources, a remote tutoring program can reach more students in need and ensure that they receive the necessary support.

6. Students' motivation.

Another potential limitation is that students may have been more willing to participate in online tutoring programs after school because they were emerging from the pandemic. If this were the case, that effect may be fading over the next few years. That doubt will fade as post-pandemic programs continue to be rigorously evaluated.

7. Schools', teachers', and principals' participation.

Schools are the natural candidate for channeling free tutoring, regardless of whether it is done while students are in school or at home. It is important that tutoring does not involve high administrative and management costs, and it is essential that it be seen as a complement to traditional teaching activity. It is also key that it be convincingly established that the benefits of having students with additional personalized support outweigh the coordination costs they will necessarily incur in their links with tutors.

Expanding remote tutoring programs to other regions and countries will generate additional coordination costs. To address this challenge, it is possible to develop collaborations with groups from civil society, NGOs or international organizations that have experience in the field.

Information Box 3.1

Examples of national tutoring programs

Supporting students' educational trajectories by funding tutoring programs at the national level is a strategy that is increasingly being used. Learning loss caused by long-standing structural educational problems and exacerbated by COVID-19-caused school closures has led governments and institutions to invest millions in evidence-based interventions to recover lost learning, with tutoring programs emerging as an effective solution.

Governments that have incorporated tutoring into general learning recovery plans have followed different strategies. Some, such as the United States and Spain, have targeted programs to particular cities and communities. Others, such as England and Chile, have developed national tutoring plans.

A latent challenge is sustainable funding, as well as tutor recruitment and training. This becomes even more critical in a context of decreasing government aid to schools. Therefore, it is imperative to design long-term funding strategies that ensure the continuity of these programs, guaranteeing their essential support role in the educational trajectories of students.[24]

Throughout the chapter, some examples of national tutoring programs in different countries, their costs and characteristics will be presented.

3.2 Characteristics of remote tutoring programs

1. Menttores (Spain)

The Menttores25 program was implemented in Spain after schools reopened, providing online tutoring with teachers in mathematics to vulnerable students in secondary schools. It was an intensive intervention involving approximately 200 seventh and eighth grade students (grades 1 and 2 of secondary education, aged 12 to 15), who attend schools in low-income neighborhoods and have difficulties in mathematics (Table 3.1). The program consisted of three 50-minute sessions per week for eight weeks.

Table 3.1 Differentiating characteristics of the remote tutoring programs.

	menttores	top	connectEd
Period:	Mid-April to early June 2021. After school closures	March-October 2020 during COVID-19 Pandemic	April 2020 - February 2022, during and after COVID-19 school closures
Format:	Fully online tutoring through an online platform, using tablets or similar devices for student and mentor access	Online distance tutoring program using a school platform, with interactions through personal computers, tablets or smartphones	Low-tech learning program at home, using distance learning via SMS and/or phone calls
Sample size:	**186** students in the treatment group	**530** students in the treatment group, with 88 percent completing the final test	**4,500** Botswana, more than **16,000** in the additional 5 countries
Focus:	Students from 12 to 15 years old	The program targeted high school students (grades 6 to 8)	Students in grades 1-5
Number of students per tutor:	**2**	**1**	**1**
Total number of tutors:	**46**	**530**	**More than 500**
Profile of the tutors:	Qualified mathematics teachers	University student volunteers	Government teachers, community education volunteers, and NGO facilitators

Source: *Authors' own elaboration based on the works of Angrist et al. (2023), Carlana et al. (2023) and Gortazar et al. (2023), in addition to a form filled out by the authors.*

Menttores was carried out one year after the beginning of the pandemic, when the schools had been reopened for several months, which shows the complementary nature of remote tutoring, in parallel with the training provided by in-person schooling.

Menttores was carried out a year after the start of the pandemic, when schools had been reopened for several months, which shows the complementary nature of remote tutoring, in parallel with the training provided by in-person schooling.

In addition to math support, the program also focused on social-emotional skills, seeking to improve students' motivation, well-being and work routines. The pedagogical approach emphasized high expectations, individualized support and continuous feedback. An essential feature of Menttores was the rigorous selection and training process for tutors. These were qualified, paid mathematics teachers who received training in key areas such as building strong bonds with students, motivation, lesson planning, learning verification, formative assessments, academic mathematics content, and tutoring methodology.

The program was carried out by the Esade Center for Economic Policy (EsadeEcPol) in partnership with the NGO Empieza por Educar (ExE), an expert in training young teachers in schools with vulnerable and low-income students in Madrid and Catalonia. The evaluation of the impact of this program has been carried out by Gortazar et al. (2023).

2. Tutoring Online Program (TOP) (Italy)

Tutoring Online Program (TOP) was created in Italy in 2020 to provide academic support to high school students who faced learning challenges during the pandemic. Since then, it has scaled to 3,000 students, being successfully implemented every year including 2022.

The first edition of TOP was held over a five-week period in April-June 2020, and was attended by 1,059 students, 530 of whom participated in the tutoring sessions. Depending on individual needs, tutors met with students once or twice per week, in sessions ranging from three to six hours per week (Table 3.1).

The TOP evaluation framework allowed for continuous improvement, testing different components and aspects that could help accelerate learning and establish the ability of these interventions to be scaled up to different contexts without losing their effectiveness (referred to as "scalability").

TOP's evaluation framework allowed for continuous improvement by testing different components and aspects that could help to accelerate learning and be extended to different contexts without losing its effectiveness.

This program is designed to be implemented in several phases:

- Contact with schools;
- Contact with families and confirmation of participation;
- Initial questions
- Definition of the support needed by the student;
- Recruitment of tutors;
- Training of tutors.

Since 2022, program implementation, including tutor recruitment and management, is outsourced to Centro Italiano Aiuti all'Infanzia (CIAI), a local NGO with extensive experience in anti-poverty education projects. As part of the program, TOP provides comprehensive training for tutors, which includes, among other elements, effective teaching methods, student engagement strategies, modules on the importance of child protection policy,26 and good practices for supporting students with learning disabilities.

In addition to providing training, IARC has taken on the responsibility of monitoring tutor performance, which involves regular checks to verify that tutors are meeting the needs of their students and providing high quality support. Evaluation of the program's impact has been conducted by Carlana and La Ferrara (2021) and Carlana et al. (2023).

3. ConnectEd (African and Asian countries)

ConnectEd was successfully implemented by the NGO Youth Impact initially in Botswana (Angrist et al., 2020) and then – in order to test its replicability and scalability – in India, Kenya, Nepal, Uganda and the Philippines, also with positive results. In these five countries, the study was implemented with the collaboration of different organizations: Global School Leaders and Alokit (India); New Globe (Kenya); World Bank, Street Child Nepal, Teach for Nepal and the government's Ministry of Science, Education and Technology (Nepal); Building Tomorrow (Uganda); and Innovations for Poverty Action and the government's Department of Education (Philippines).

In this project, eight weeks of tutoring sessions of about 20 minutes duration focused on mathematics were offered through phone calls and text messaging (Table 3.1). The low technological demand of this initiative allows us to evaluate the implementation of remote tutoring in areas with low connectivity without many technological requirements and in socioeconomic contexts that lack guaranteed internet access. Angrist et al. (2023), have evaluated this program in a large-scale randomized research trial with more than 16,000 students who had enrolled in the program.

3.3
The impact of the three programs

The impact of these programs was rigorously established on the basis of evaluations comparing the results of randomly selected potential participants with those who were not, following, as described in Information Box 3.2, the protocols of a "Randomized Controlled Trial" (RCT).27 In Italy and Spain, the impact on non-cognitive aspects, such as aspirations, self-confidence (self-perceived skills) and interest in the subjects studied, was also evaluated.

Information Box 3.2

How to measure effects and learning?

Just as temperature is measured in degrees Celsius and Fahrenheit, and distance in miles and kilometers, in education policy there are different metrics to measure results.

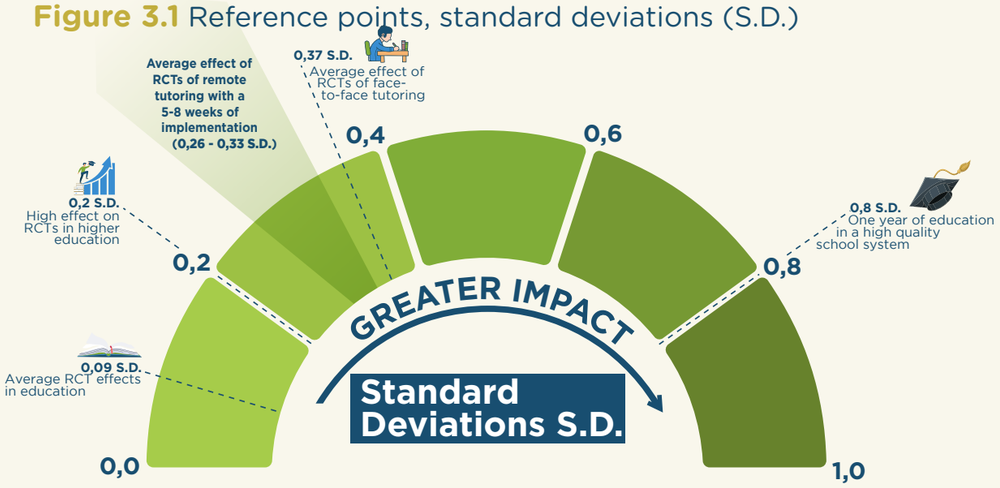
One of the most common is the standard deviation, since it facilitates comparison between different policies. Likewise, to evaluate the impact of educational policies, a consolidated method is the Randomized Controlled Trial, known by its acronym RCT.

This method selects a group of students and randomly divides it into two subgroups with similar characteristics. One (treatment group) is given a new teaching method and the other (control group) is not. In addition, they are evaluated, for example, in mathematics learning, before and after the intervention, to detect the possible effects of this teaching method on learning.

With this method, the use of standard deviations allows the results of an intervention to be comparable with the results of other interventions or with the same interventions implemented in other countries and contexts. The standard deviation allows the difference observed between the treatment and control groups to be expressed in terms of variability. The higher the positive value expressed in standard deviations, the greater the effect of the intervention.

Now, how can we determine not only whether an intervention has been positive or negative, but also the magnitude of that effect? For that we need a convention. Taking into account multiple different educational interventions, Kraft (2020) considers an effect to be "low" if it is less than 0.05 standard deviations; "medium" if it is between 0.05 and 0.20 standard deviations; and "high" if it exceeds 0.20 standard deviations (Figure 3.1). Another study, by Evans and Yuan (2022), tells us that the mean mathematical effect of educational interventions in middle- and low-income countries is 0.09 standard deviations.

Figure 3.1 Reference points, standard deviations (S.D.)



Source: *own elaboration from information presented in this box.*

Note: *the impact on programs Angrist et al. (2023), Carlana et al. (2023), and Gortazar et al. (2023) mentioned in this chapter. The works of Angrist et al. (2020), Kraft (2020), Nickow et al. (2020), and Evans and Yuan (2022) help frame the level of such effects on the general context of RCT in education.*

Finally, it is possible to interpret standard deviations using a relatively intuitive criterion in order to have a more concrete notion of their meaning. Thus, some experts try to express standard deviations in their equivalent in terms of expected learning in a school year, as a sort of "yardstick for measuring learning."

According to Angrist et al. (2020), one year of study in a high-quality education system (i.e., of a quality like that of the best-performing education systems) translates into learning equivalent to 0.8 standard deviations. Taking this reference, we can express the results in school years (or months) of high quality learning.

In short, the use of standard deviations as a metric allows us to establish whether an intervention, a change in strategy, or a new methodology is on the right track and whether an educational intervention actually

helps students learn more. Thus, when we think about educational policy, we not only seek to establish whether it works, but how well it does so and how it compares with other policies.

Remote tutoring offers similar effects at a substantially lower cost than in-person tutoring.

3.3.1 Academic performance

In all cases, the results were overwhelmingly positive28 and lead to the conclusion that remote tutoring offers similar effects at a substantially lower cost than in-person tutoring (see Chapter 2).

These short, intensive programs of less than two months of implementation generated impacts equivalent to more than 30% of the learning generated in one year of a high quality education system. These are considered high learning impacts according to academic references in education (see Information Box 3.2).

Figure 3.2 Costs, impact and duration of remote tutoring

menttores

Spain

Duration and frequency of the program:

Intensive eight-week program with three 50-minute meetings per week

Cost per student:	Cost of tutor training:	Impact on S.D.:
300 euros per student	**200 euros** per tutor	**0.26**

Equivalent impact in one school year of a high quality education system (0.8 S.D. of learning):

32% of the equivalent impact in a high quality education system

qtop

Italy

Duration and frequency of the program:

Five-week program with tutors meeting with students once or twice a week, and sessions of 3 or 6 hours per week depending on the student's needs.

Cost per student:	Cost of tutor training:	Impact on S.D.:
50 euros per child	Approximately **40 euros** per tutor	**0.26**

Equivalent impact in one school year of a high quality education system (0.8 S.D. of learning):

32% of the equivalent impact in a high quality education system

connectEd

Proof of concept in Botswana, and repititions in India, Nepal, Philippines, Kenya, and Uganda

Duration and frequency of the program:

Programa de ocho semanas con 3 horas de instrucción directa, consistente en sesiones de tutoría individualizadas por teléfono de 20 minutos una vez a la semana.

Cost per student:	Impact on S.D.:
US$12 per child on average	**0.33** considering all countries

Equivalent impact in one school year of a high quality education system (0.8 S.D. of learning):

41% of the equivalent impact in a high quality education system

Source: *Own elaboration based on the works of Angrist et al. (2023), Carlana et al. (2023) and Gortazar et al. (2023), in addition to a form filled out by the authors.*
Note: *For the equivalent impact on a school year of a high quality education system, see Information Box 3.2.*

On the Menttores program in Spain, the following effects were found:

- An additional impact on final math scores for those who received the tutoring. This impact is equivalent to what would have been approximately six months of extra learning under schooling conditions without the addition of remote tutoring[29];
- An increased probability of passing the subject of approximately 32%;
- An increase in performance on a standardized math test. The improvement was 17%, or 0.26 standard deviations, equivalent to approximately three months of learning (Figure 3.2);
- A decrease in the probability of repeating the school year of 9.4 percentage points, equivalent to a decrease of 78% with respect to the control group, whose repetition rate was 12%.

Evaluation on the TOP program in Italy revealed the following points:

- A statistically significant increase of 9% in the number of correct answers in the applied standardized test,[30] which corresponds to a considerable increase in student performance equivalent to 0.26 standard deviations (Figure 3.2)..
- The effects were positive in all academic areas, but especially in mathematics. The positive results obtained in the 2020 implementation, during school closures, were confirmed in 2022 when, after the pandemic, students were able to interact on a regular basis with their peers and teachers.[31]
- Students who received tutoring primarily through smartphones also significantly improved their academic performance compared to those who had access to higher quality devices, such as tablets and laptops.[32] These effects are notable, especially considering the likelihood that students with only phones belong to the

most socioeconomically vulnerable group, which also experience the greatest difficulties and disadvantages. This finding offers hope that online tutoring can be a useful tool even in low-income contexts, where students only have access to smartphones. The cases of India, Nepal, Kenya, the Philippines and Uganda with ConnectEd confirm the possibility of generating educational impact with remote tutoring using basic phone devices, although this program goes further, as the communication is only by phone, with no interactions requiring internet access.

For the evaluation of the ConnectEd program in countries from Africa and Asia, the following were found:

- Consistently positive results, with an average effect of 0.33 standard deviations[33] on basic mathematics learning (Figure 3.2), regardless of country-specific circumstances. This translated into large learning gains in absolute terms, although these were greatest in Uganda – where a significant improvement in the division skills of fourth-grade students was detected – and the Philippines, which are also the countries that experienced the longest school closures.[34]

- Overall, countries experienced a 65% increase in the number of students able to divide (Angrist et al. 2023). These robust results were achieved despite the fact that the tutors were heterogeneous, with both NGO members and public school teachers.[35] [36]

- TThe analysis also reveals that text messages delivered independently of telephone tutoring generated lower learning gains,[37] even despite the positive effect in Uganda[38] and, to a lesser extent, the Philippines.[39] This suggests that SMS alone may not be enough to improve learning in some low- and middle-income settings.

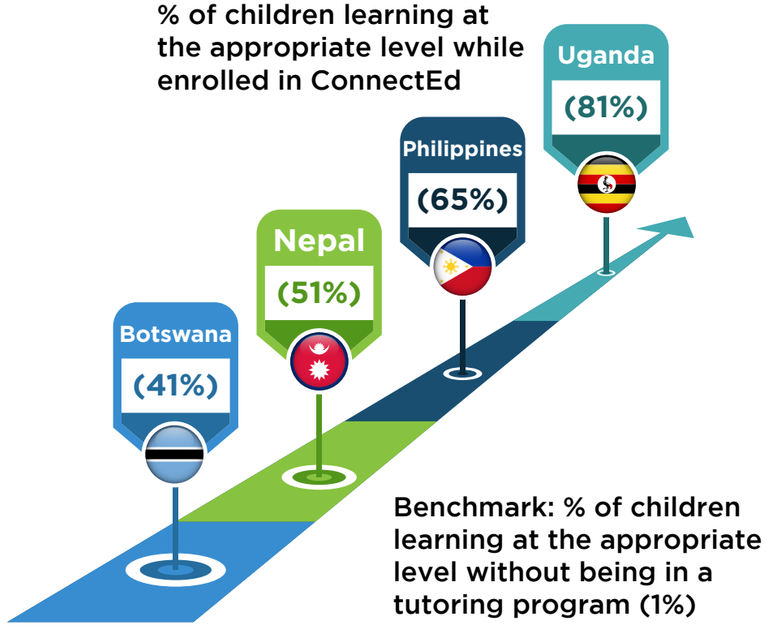
This evidence reveals that telephone tutoring is an effective and robust option for striking a balance between two key elements:

1. **Effectiveness:** having sufficient intensity to deliver sustained impact in a variety of contexts;

2. **Cost-effective:** to be economical and, potentially, scalable.

ConnectEd-related studies also estimate the extent to which instruction was appropriate to each student's needs, abilities, and situation, a key metric for understanding implementation reliability.[40] If one takes the percentage of children who were actually at their appropriate level of learning as a measure of reliability, this went from around 40% in the original Botswana project to over 80% in the Uganda project (Figure 3.3). That indicates that in ConnectEd implementation improved over time, which is a big difference from much of the previous literature, where replication results are often less robust than the proof-of-concept study.

Figure 3.3 Learning curve for ConnectEd implementations



Source: *adapted from Angrist et al. (2023).*

That the results have also been positive using telephone calls without internet connection is particularly promising and, moreover, shows how important it is that the implementation of the programs be adjustment to the context of each country.

The fact that the results were also positive using telephone calls without the need for an Internet connection is particularly promising and, moreover, shows how important it is that the implementation of the programs be adjusted to the context of each country. The results in the five countries that used this system were consistently very favorable, regardless of their specific characteristics.

It is notable that the impacts were greatest in the countries that experienced the longest school closures (Uganda and the Philippines), where they translated into large learning gains in absolute terms. In Uganda, for example, less than 20% of fourth-grade students could divide at the start of the study, while almost 50% were able to divide by the end. In that case, students made gains that far outweighed academic remediation by completely reversing any learning loss that the school closures would have generated (Angrist et al. 2023).

Information Box 3.3

National tutoring programs: United States of America

The National Partnership for Student Success (NPSS) program is part of the American Rescue Plan (ARP),[41] which has funding of nearly $122 billion.

Goal: Safely reopen schools to prevent the spread of COVID-19,42 combat learning loss, and address mental health and other student needs.

Outreach: NPSS benefits more than 5,000 school districts with tutoring, summer learning programs and after-school activities.

Goal: To have 250,000 adults take on roles as tutors, mentors and coaches for the transition to postsecondary education over the next three years. This, in turn, will foster the development of educator training by enabling more citizens to gain experience in schools and aspire to teaching and student support roles.

Method: in-person and online, involving schools, non-profit organizations, AmeriCorps43 and volunteers.

Prioritization: students in the K-12 school age range (ages 6 to 18), with subjects and themes focused according to the prioritization, vision and objectives of each school district.

3.3.2 Beyond academic performance

In the cases of Italy and Spain, non-academic aspects of the programs were evaluated and additional evidence was found suggesting that remote tutoring increases student aspirations.

In Spain, the evaluation found that program participants were 13.6% more likely to report that they would like to continue studying after compulsory schooling. In Italy, the mothers/fathers of students who received tutoring also seemed more likely to report that the student planned to enroll in a university in the future.[44]

In Spain, no impact was seen on other non-cognitive dimensions. In particular, the program does not seem to have affected students' perception of their mathematical skills or their interest in the subject. Nor did it affect their level of confidence about whether their own effort can lead to better academic results – a concept called 'locus of control' – or their persistence or general well-being.

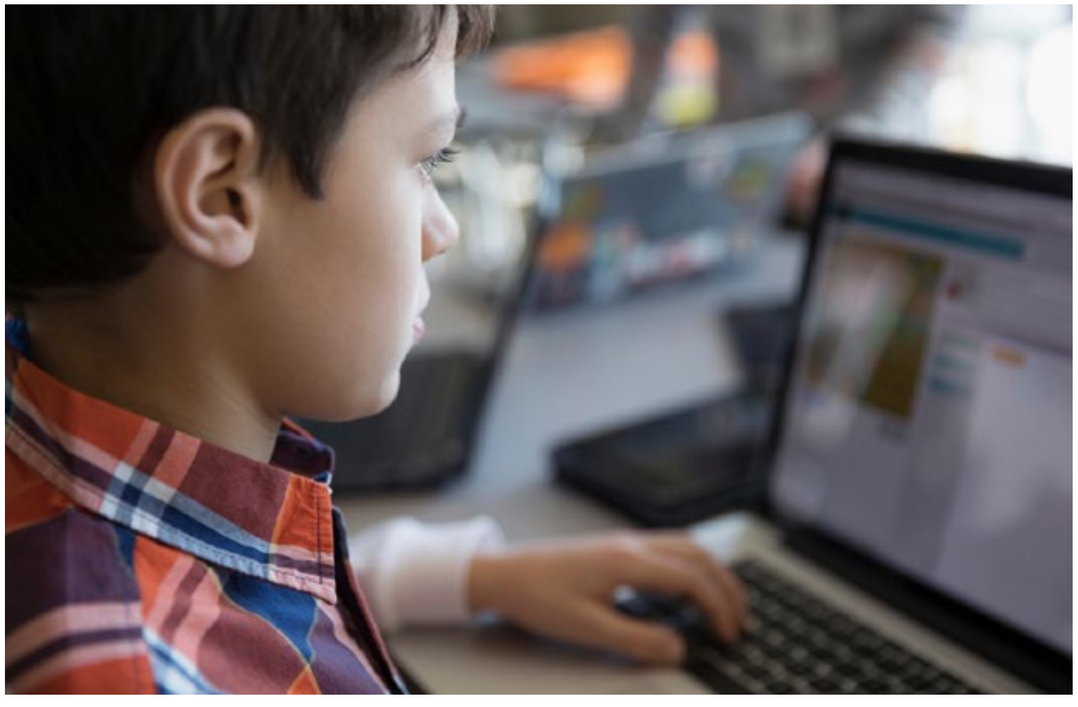
The results from Italy, on the other hand, were broader and covered other measures of skills and well-being. The evaluation detected a statistically significant improvement in students' socioemotional skills[45] and an effect – although not statistically significant – in the direction of an increase in students' perseverance in the face of obstacles.[46]

However, students who received tutoring did demonstrate a greater appreciation of how their effort is linked to their results (i.e., a stronger 'locus of control') than those who did not, perhaps because experiencing the positive academic outcomes of the program allowed them to realize that success in school was not just a matter of luck. In Spain, students with tutoring also showed an 11.6 percentage point higher probability of reporting that they tried very hard (always or most of the time), which corresponds to an increase of 21.5% compared to the average of the group that did not have remote tutoring.

It is also possible that the program helped students manage psychological challenges arising from the pandemic and isolation. In Italy, those who received tutoring showed decreased symptoms of depression and increased levels of happiness. This suggests that TOP may have had a positive impact – consistent in both boys and girls and among students with and without learning disabilities – in addressing mental health problems related to the pandemic and the plight of long confinement that significantly limited their social interaction. A notable trend emerging from the Italian data, albeit at the qualitative level, is that TOP had a greater effect on students whose parents worked outside the home, which could be because these students may have received less help from their parents with schoolwork and, also, may have been subject to less supervision during remote learning.

TOP could have had a positive impact on addressing mental health problems related to the pandemic and a long confinement that significantly limited their social interaction

However, the impacts on the indices of aspirations, socioemotional skills and well-being appear confined to the extreme context of school closures. In 2022, after the return to in-person teaching, the estimated effects on these non-cognitive dimensions were not statistically significant, beyond the positive effects on academic performance. It is possible that the impact of remote tutoring is robust on learning and that its positive effect on non-cognitive skills is limited to extreme situations of isolation.



3.4 Features of different implementations

3.4.1 Student selection process

Beyond differences in implementation, the experiences discussed in this section share a fundamental element that reveals the leveling potential of remote tutoring.

All the programs had socioeconomic objectives, focusing on targeting their services to the students most in need. In Spain and Italy, the selection of students was done in close collaboration with the schools, where teachers and principals identified those most in need of services. ConnectEd addressed needs at the national level by conducting its pilot projects in countries with significant educational gaps and a clear need for additional mathematics instruction. Despite differences in scale and approach, all three programs share the common goal of providing additional support to the students who need it most, demonstrating a focus on educational equity.

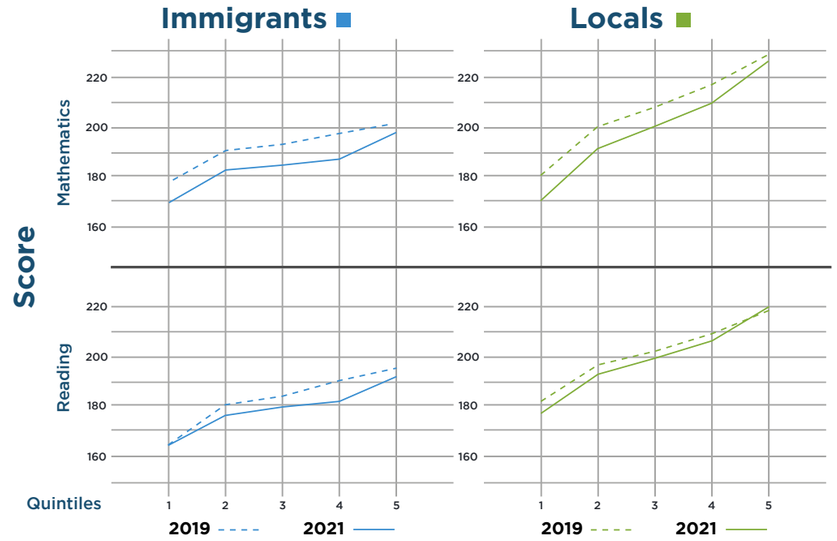
1. Menttores

In Spain, the selection of participating schools took advantage of Empieza por Educar's (ExE) extensive network[47] with teachers working in schools in the regions of Catalonia and Madrid. First, ExE contacted school principals and informed them about the program and its characteristics, its target population, and the scientific evaluation that would be conducted of the program through a randomized controlled trial. There were no strict eligibility rules and teachers and principals were delegated the task of identifying the students most in need of math tutoring. Then, parents of those students identified by the school were directed to an online registration form that included information explaining that the program would be evaluated and that not all students who registered would ultimately be selected.

2. TOP

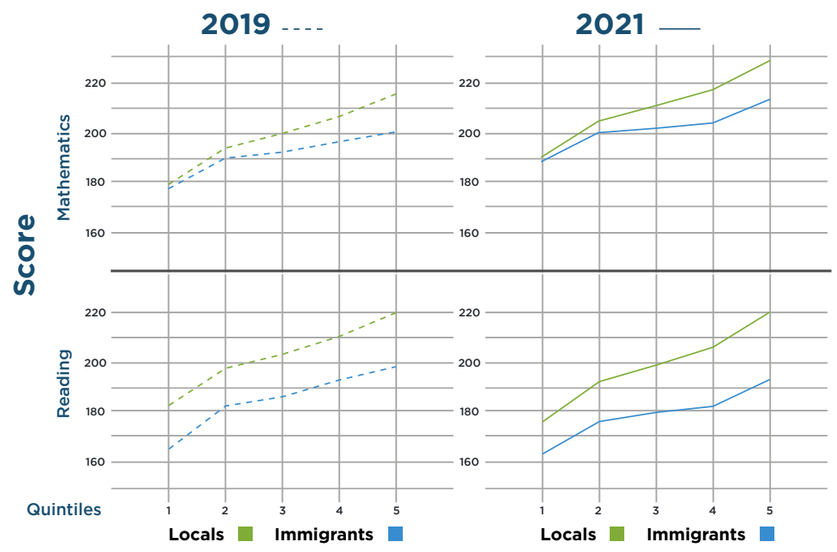
Italy's program focused on high school students (grades 6-8) who faced challenges in school, whether due to socioeconomic status, language barriers (e.g., first-generation immigrants), or learning difficulties. Tutoring began in 2020, at a time when learning outcome data in Italy revealed a notable decline in performance (Figure 3.1). That was especially visible for immigrant children, who scored lower in math and reading compared to locals, a gap that widened in 2021 (Figure 3.2). The largest discrepancy between locals and immigrants was observed in reading, which demonstrates the need for tutoring programs focused on language in countries such as Italy, where part of the integration process of immigrants is through language proficiency.

Figure 3.1 Decline in learning outcomes between 2019 and 2021. Differences in math and reading scores for immigrants and locals, Italy



Source: *adapted from Carlana et al. (2023).*
Note: *number 1 represents the poorer quintile, whereas number 5 represents the least poor quintile. Results for eighth-grade students.*

Figure 3.2 Learning gaps between locals and immigrants. Differences in math and reading scores for 2019 and 2021, Italy



Source: *adapted from Carlana et al. (2023).*
Note: *number 1 represents the poorer quintile, whereas number 5 represents the least poor quintile. Results for eighth-grade students.*

The program also included students with learning difficulties, so the tutor training had a specific module on how to address this issue in tutoring. To ensure that these reached those who needed them the most, the selection process involved the active participation of teachers, who were asked to rank students in order of priority, choosing up to three per class that they felt should be included in the program.

By working closely with schools, this initiative ensured that tutoring services were integrated with the regular school curriculum and complemented classroom instruction. In this way, remote tutoring in Italy did not represent an additional burden for students, but rather provided them with targeted support to enhance their learning experience.

In Italy, remote tutoring did not represent an additional burden for students, but rather provided them with specific support to enhance their learning experience.

3. ConnectEd

The program conducted its pilot projects in India, Kenya, Nepal, the Philippines, and Uganda, i.e., five countries with notorious educational gaps that had shown particularly low performance in mathematics in international PISA assessments. An additional factor that reinforced the need for additional instruction in basic mathematics is that India and the Philippines are among the countries with the worst scores in this subject in the 2018 PISA rankings.

The pilot programs focused on the areas of greatest need, working closely with local ministries of education to identify targeting. In India, most of the tutoring beneficiaries were from rural areas and extremely marginalized communities. In Uganda, the study was conducted in 9 of the country's 135 districts, including some of the most isolated rural areas.

Tests at the beginning of the pilot (baseline)[48] confirmed these gaps, showing that only a small percentage of students were able to perform basic calculations. During school closures, few students in these countries were able to access remote education. For example, in Nepal, only 31% of students were able to maintain interaction with their teachers during these periods.

3.4.2 Technology used in remote tutoring

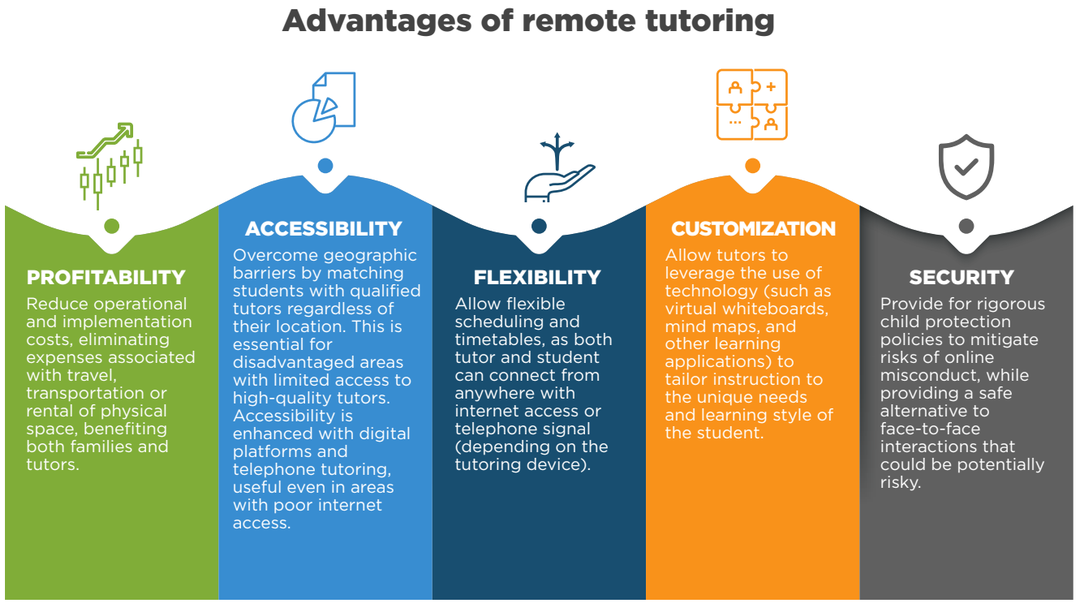
Phone calls approximate the experience and relationship-building of one-on-one tutoring, using a flexible model that seeks to engage families in learning

The tutoring sessions used remote learning, although they differed in technology, platform used and cost. In Spain and Italy, online platforms requiring internet access were used. In India, Kenya, Nepal, Uganda and the Philippines, cell phone calls were used to reduce costs and maximize coverage.49 In this second operation, households enrolled in the program received a package of interventions once a week that included a one-way text message with math practice challenges followed by a 20-minute telephone tutorial. These tutoring sessions were conducted between tutors and students, and were done over the speaker phone to encourage caregivers to listen and provide support. In this way, the phone calls approximated the experience and relationship-building of one-on-one tutoring, using a flexible remote model that also sought to engage families in learning both because of the use of the speakerphone and because the messages were received by caregivers on their phones (Figure 3.4).

Differences in the technology requirements of successful tutoring programs suggest three key lessons:

1. The medium can be adapted to the specific situation of the country and the student;
2. The technology used is not a critical variable for success;
3. Technology has implications for program costs for both families and tutors, and for the agency charged with the implementation and management of tutoring.

Figure 3.4 Advantages of remote tutoring



Source: *adapted formulation from Carlana et al.'s (2023) document.*

3.4.3 Curricular areas

All the tutoring sessions included mathematics as a subject. In Italy and Spain, the programs targeted high school students. In African and Asian countries, they targeted fifth grade students and were limited to basic mathematical operations (addition, subtraction, multiplication and division).

Italy's program was one of the few multi-subject programs in the world since, in addition to mathematics, it included Italian and English classes. The three subjects were selected as they were considered critical to successfully navigate the subsequent educational process. The design was flexible to adapt to the needs of each student. For example, if the student was proficient in Italian, but had difficulty with mathematics, the program focused only on the latter area.

A peculiarity of India, Nepal, Uganda, the Philippines and Kenya was the adoption of Teaching to the Right Level (TaRL), described in Chapter 2, as the pedagogical approach. This was accomplished through check questions, or "problems of the day," delivered at the end of each session, which helped inform the tutor whether the child had mastered a skill. The student who answered one of these check questions correctly

advanced to the next topic in the following session, while the student who answered incorrectly repeated the lesson the following week.

3.4.4 Tutor–student relation

The tutoring sessions were one-on-one in Italy and countries in Africa and Asia. The research team in Italy also examined the impact of online group tutoring in 2022, detecting several challenges in it, including that students cannot easily reschedule the meeting, nor benefit from the individual interaction with the tutor that allows personalizing the training to the right level. Online group tutoring had no statistically significant effect on either academic performance or on the other three dimensions analyzed (aspirations, socioemotional skills, and well-being).

In Spain, the tutoring sessions were given to pairs of students. Throughout the program, the same pairs of students attended meetings with the same tutor at each session. The students in each pair were from the same class or grade in the same school, to ensure that they knew each other and found it easier to connect and adapt. The decision to set up tutoring sessions with two students per tutor was due to three main reasons (Gortazar et al., 2023):

1. The pedagogical team in charge of implementation suggested that being in a group with another student had the potential to generate mutual motivation and peer pressure not to drop out of the program, especially in an online environment;

2. Existing evidence for in-person programs shows that two-to-one tutoring is almost as effective as one-to-one tutoring (Nickow et al., 2020);

3. This design allowed tutoring to be delivered to twice as many students as in a one-to-one configuration.

The fact that Menttores has achieved positive effects under the two-students-per-tutor configuration is very important as it affects cost-efficiency considerations.

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Information Box 3.5

National tutoring programs: Spain

The Program for Educational Guidance, Advancement and Enrichment (PROA+) is an initiative of the Ministry of Education and Vocational Training in collaboration with Spain's autonomous communities, with funding from the European Union's Resilience and Recovery Mechanism of 360 million euros (equivalent to US$397 million)50 for the period 2021-2024.

Objective: To support the educational success of students, especially those in vulnerable situations, by providing resources and training to schools facing the greatest difficulties.

Scope: Centers adopt various measures, including organizational changes, to facilitate reinforcements.

Goal: To facilitate individualized tutoring, co-teaching, and attention to diversity, seeking the advancement of all students. Measures are also considered to ensure the stability and quality of the teaching team, and the participation of other education professionals necessary for the implementation of the plan.

Prioritization: guidance, advancement and educational enrichment in centers of special educational complexity, benefiting elementary and high school students.

3.4.5 Tutor's profile

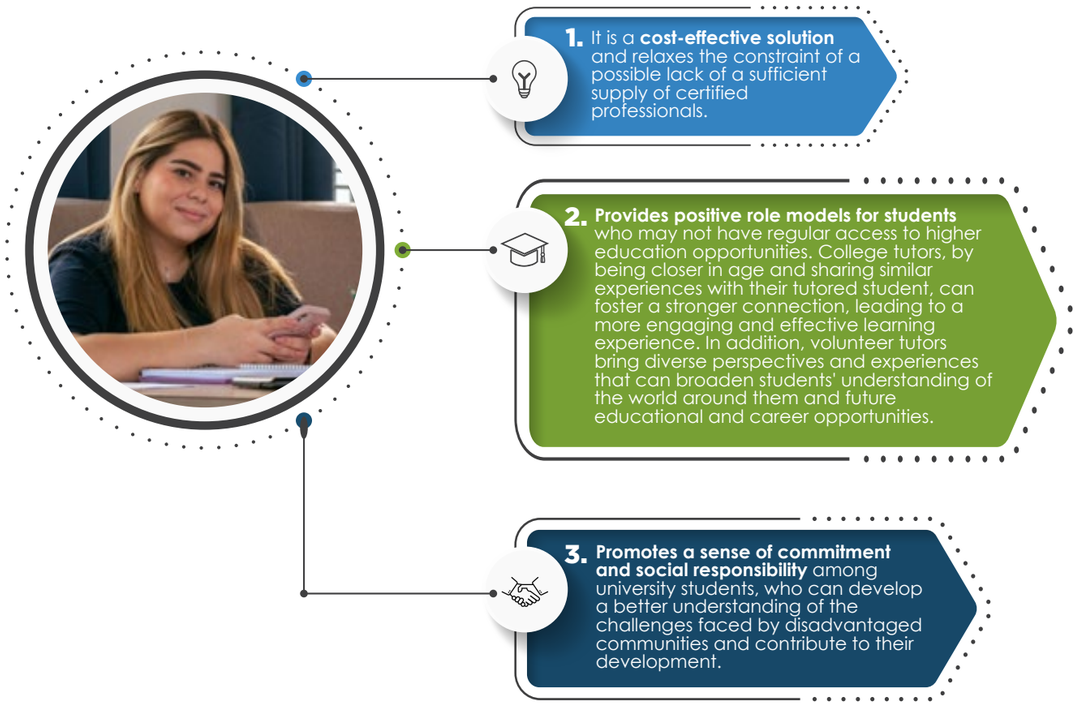
The programs differed in the characteristics of the tutors. In Italy they were volunteer university students. In Spain, qualified mathematics teachers. In African and Asian countries, public school teachers, community education volunteers and NGO facilitators were included.

The peculiarities of each group are explained below.

3.4.5.1 University volunteer students as tutors

TOP tutors in Italy were volunteer university students from all disciplines (see advantages of volunteer tutors in Figure 3.5). Given that in tutoring the quality of the exchanges between instructor and student is critical to success (Cook et al., 2015), the skills required in the interactions are different from the traditional classroom ones. For that reason, the program relied on the intrinsic motivation and social engagement of tutors to facilitate interactions with the tutored, which may be particularly important for students facing a higher risk of dropping out of school.

Figure 3.5 Potential benefits of college student volunteers as tutors.



Source: *own elaboration based on Carlana et al. (2023).*

As part of the online tutoring program, tutors were supported by pedagogical experts throughout the program, and before they began tutoring, they underwent a rigorous training program. This ensured that they were equipped with the skills and knowledge necessary to provide high-quality online tutoring services to and interact with students aged 11-13. In addition, TOP offered ongoing support and professional development opportunities for tutors to improve their teaching and social skills.

The programs differed in the characteristics of the tutors, including volunteer university students, qualified mathematics teachers, teachers from public schools, volunteers community education and NGO facilitators.

Tutor training was designed to equip candidates with the knowledge and skills needed to support the students' learning objectives. In addition to the self-directed training, the implementing partner and pedagogical team could also schedule additional training sessions for tutors.

Participation in the training program was mandatory for tutors, who were strongly encouraged to take advantage of all available resources to optimize their tutoring sessions. The training modules were developed by a team of experts and covered a wide range of topics relevant to tutoring, such as rules of conduct, child protection, specific tips on how to deliver different content, learning styles, and effective tutoring techniques including session preparation and the use of online tools to facilitate learning. Finally, a module was included to train in supporting students with special educational needs.

3.4.5.2 Teachers as tutors

In Spain, tutoring sessions were delivered online by qualified mathematics teachers in groups of two students per tutor. There were two reasons for the decision to hire teachers:

1. Existing evidence on in-person tutoring suggests that teachers are significantly more effective than non-professionals or volunteers (Nickow et al., 2020);

2. Although a treatment delivered by volunteer university students was envisaged as in Italy, the program was unable to recruit enough candidates.[51]

ExE designed and conducted the selection and training of tutors based on its previous experience in teacher selection. A key criterion for selection was having a postgraduate degree (master's) in teacher training in a science specialization (mathematics, physics, chemistry or biology), which is a formal requirement for teaching mathematics in secondary

education in Spain. Other skills were also considered, such as motivation for the program, having taught in low-income schools, and having previous teaching experience.

Positions were advertised through various channels, including online recruitment portals, ExE's network of current and former teachers, and other teachers with whom the organization works. A total of 199 applicants who met the minimum requirements received a formal application form and applied. Of these, 110 candidates received a link to an online interview. Ultimately, 46 tutors were hired, which was the number required to provide tutoring to approximately 200 students.

3.4.5.3 Public school teachers and facilitators

Local NGOs, government agencies and education-focused groups worked together in the ConnectEd pilots. These collaborations facilitated the implementation of the program and provided monitoring tools, training and technical assistance to teachers.

In each country, the instructors selected were either public school teachers (e.g., civil servants) or facilitators, including community education volunteers and teacher-trained instructors employed by NGOs.

In the Philippines and Nepal, the intervention was randomized between NGO facilitators and government teachers, which provided information on the effectiveness of the program in different teaching contexts. In both cases, the average effect of telephone tutoring on learning resulted in significant improvements especially when delivered by professional teachers.52 This result suggests promising potential for scaling up the intervention.

To understand the impact of program implementation on teachers' beliefs and practices, a group of government teachers in Nepal was randomly assigned to tutor in Nepal. As a result, their practices changed substantially:

- It increased their propensity to address their comments to the students' level of learning;
- It raised their tendency to involve parents in education;
- Their perception of their own ability to help students learn and their desire to teach grew substantially.

Overall, the results indicate that the implementation of effective programs can catalyze a virtuous cycle within government education systems, motivating teachers to improve their teaching practice.

The program also demonstrated its adaptability to different regional contexts and particularities, such as linguistic differences. In India, tutoring sessions were delivered in English and Telugu; in Kenya, in English and Kiswahili; in Nepal, in more than a dozen languages; in the Philippines, in the five most widely spoken languages in the regions studied; and in Uganda, in English, Luganda and Runyankore. This multifaceted approach, coupled with the large and robust learning effects achieved, underscores the versatility and effectiveness of telephone tutoring.

The implementation of effective programs can catalyze a virtuous cycle within governmental education systems, motivating teachers to improve their teaching practice.

Information Box 3.5

National tutoring programs: England

The National Tutoring Programme (National Tutoring Plan, or NTP) has funding of £349 million (US$446 million)[53] for 2022 and 2023. Schools receive between £162 and £423 per student.

Objective: To provide access to high quality tutoring to students whose education had been impacted by the COVID-19 pandemic, with a focus on English and mathematics.

Method: three tutoring routes – Tuition Partners, Academic Mentors and School-Led Tutoring – available both online and in person.

Scope: State schools receive funding from the program throughout the academic year to provide tutoring to their students. Currently, the government funds 60% of the costs, and the schools the remaining 40%. In the future, the government subsidy will drop to 25%. By August 31, 2022, 87% of schools participated in the NTP, delivering 2.1 million courses to students.

Prioritization: focus on students from the first to the eleventh year of schooling (elementary, middle, and high school), in all state schools.

3.4.6 Program costs

Although the cost per student differs in each case, all three programs have proven to be cost-effective within their specific context.

Although the cost per student differs in each case, all three programs have proven to be cost-effective within their specific context. This is very relevant, as the cost-effectiveness of remote tutoring and its adaptability to diverse situations are crucial to its implementation and success.

In this section, we present a brief description of the costs associated with the three interventions evaluated.

In descending order of cost per student, we started with Menttores from Spain, which had an intervention cost of 300 euros per student. Menttores is the only program that used qualified, paid teachers. It was also the smallest, which increased its cost per student.

Menttores is the only program that used qualified and paid teachers. It was also the smallest, which increased its cost per student.

However, this program guaranteed the digital inclusion of each student by providing an electronic device and internet to those who did not have access. To this end, it adopted an online methodology, using *Google Workspace* for interaction and supervision of assignments, which allowed the participation of tutors at a distance and had a lower cost than other alternatives with professional teachers.

The program proved to be an effective investment, both socially and economically, with a positive impact on learning outcomes and the reduction of grade repetition. If the 75% reduction in grade repetition achieved by Menttores and the costs involved were extrapolated to the national system, the Spanish government could save some 1.2 billion euros per year. To these savings would be added improvements in the individual welfare of young people and a higher educational level of students who do not repeat, given that repetition and early school dropout are correlated. Other favorable impacts would be on social cohesion and economic growth. All this supports the cost-effectiveness of this program.

The TOP program in Italy, with an average cost of 50 euros per student (including organizational, pedagogical and administrative costs), stood out for its cost control without sacrificing quality, mainly due to the use of volunteer tutors.

TOP provides strong evidence of the cost-effectiveness of one-to-one tutoring by drastically reducing the cost of tutoring, which is one of the main barriers to large-scale implementation, and also facilitating access to students in disadvantaged areas through virtual learning, all while achieving remarkable learning and social-emotional gains. Even after the reopening of schools, the TOP method of virtual tutoring with volunteers can continue to be an effective and economical tool to assist vulnerable children and prevent inequalities.

Even after the reopening of schools, the TOP method of virtual tutoring with volunteers can continue to be an effective and economical tool to assist vulnerable children and prevent inequities.

Remote tutoring was particularly cost-effective in ConnectEd, which took place in developing countries (India, Nepal, Uganda, Philippines and Kenya) and averaged US$12 per student, a very low figure due to the use of cell phones as the primary tool for instruction. Almost all households had these devices and it was therefore possible to take advantage of the existing home infrastructure. This is a particularly important advantage for scalability of administrative costs.

ConnectEd's main cost drivers were:

1. Training of tutors;
2. Staff time dedicated to preparing lesson content;
3. Tutors' time to schedule and make calls;
4. Time of cell phone use;
5. Staff time for supervision and management.

The study has expanded to more countries and with more participants, further reducing costs per student through economies of scale by spreading the costs of training materials and monitoring systems over more students, which has reduced the cost per student.

The program can deliver more than three years of high-quality education for every US$100 invested, putting it in the top percentile of cost-effective interventions (Angrist et al. 2020), and underscoring its potential to improve education cost-effectively in low- and middle-income contexts, and to contribute to solving the global learning crisis.

To establish the cost-effectiveness of remote tutoring in India, Nepal, Uganda, Kenya and the Philippines, Learning Adjusted Years of Schooling (LAYS), which is a calculation of how many years of high-quality education an intervention equates to in a given context, was used. Angrist et al. (2023) shows a comparison of LAYS per US$100 for educational technology and pedagogy interventions that demonstrated impact. ConnectEd produced 3.4 LAYS per US$100, making it one of the most cost-effective interventions.

3.5
Matters to solve

The evidence in favor of remote tutoring is accumulating and demonstrates robustness in different contexts and forms of implementation. The data collected in the seven remarkably diverse countries discussed in this chapter show that they can be delivered by a variety of tutor profiles and through a variety of devices, underscoring their potential for scalability. As their implementation expands, our knowledge about their ability to generate impacts beyond those already established by existing studies will increase.

However, there are still outstanding issues:

- It is crucial to analyze in detail the mechanisms that lead to the observed results, including the characteristics of the tutors, the training they receive, their interactions with the students, and the type of devices used.
- For now, sample sizes are not large enough to detect differences in outcomes between groups that differ in more subtle ways. Evaluations of scaled-up programs, with large sample sizes, will allow us to probe into areas that are fundamental to maximizing the impact of remote tutoring. It is also important to explore whether the positive results of tutoring are sustained in other educational contexts with different levels of socioemotional support for students or teacher training, or where the focus is on other subjects, such as reading or science.
- The works discussed involve both primary and secondary school students, which suggests robustness in their impact, but the optimal timing of intervention remains to be determined. That answer will likely depend on the context and educational objectives of each future program but, in any case, it will be important to establish what type of students are most receptive to translating tutoring into improved performance.
- It will be interesting to explore the effect of introducing complementary technologies, such as adaptive software with high quality content, asynchronous interactions with tutors via chats, or even artificial intelligence bots to support mathematics learning. Thus, the additional value

of real-time interaction between student and tutor can be assessed.Thus, we will be able to evaluate the additional value of real-time interactions between students and tutors.

- More evidence is needed on effective educational programs in emergency situations, as there is a paucity of data on such scenarios. In many countries, the educational crisis is structural and transcends a specific catastrophe such as COVID-19. Therefore, it is necessary to have information that clearly distinguishes the impact of a pandemic on the educational process from disruptions caused by other emergencies or sources of disruption. In addition, it is important to validate the impact of remote tutoring in environments such as those in Latin America, which are characterized by low levels of quality learning and expanding educational gaps.

- It is vital to study the relationship between tutoring and schools, specifically between tutors and teachers. This collaboration can contribute to the success of remote tutoring and should be complementary. In addition, it is necessary to consider how to improve communication between parties, formalize it and determine the role of institutions and regulatory bodies in promoting it.

The results to date suggest that these interventions have significant potential for improving education in a variety of contexts and circumstances.

In this way, remote tutoring could be a structural solution and not just an emergency measure. Its flexibility and accessibility makes it attractive for a wide range of educational situations, beyond crises.

There are still questions to be answered and details to be refined, but the results to date suggest that these interventions have significant potential to improve education in a variety of contexts and circumstances. In the next chapter we show how they have been adapted in Latin America.

Information Box 3.6

National tutoring programs: Chile

The National Tutoring Plan is a central component of the Educational Reactivation Plan of the Chilean Ministry of Education (MINEDUC). This project is just one of the tutoring initiatives that this country has adopted in its effort to recover student learning, including programs such as Red Tutores para Chile and Seamos Comunidad que Acompaña y Apoya (Let's Be a Community that Accompanies and Supports). The program is financed by the FOSIS Innovation Fund of the Ministry of Social Development (100 million Chilean pesos, equivalent to US$120,917),54 and by MINEDUC itself (500 million Chilean pesos, equivalent to US$604,585), which is part of a budget of 250 billion pesos (US$300 million) for the Educational Reactivation Policy.

Objective: to implement support programs for students with greater learning support needs and school commitment.

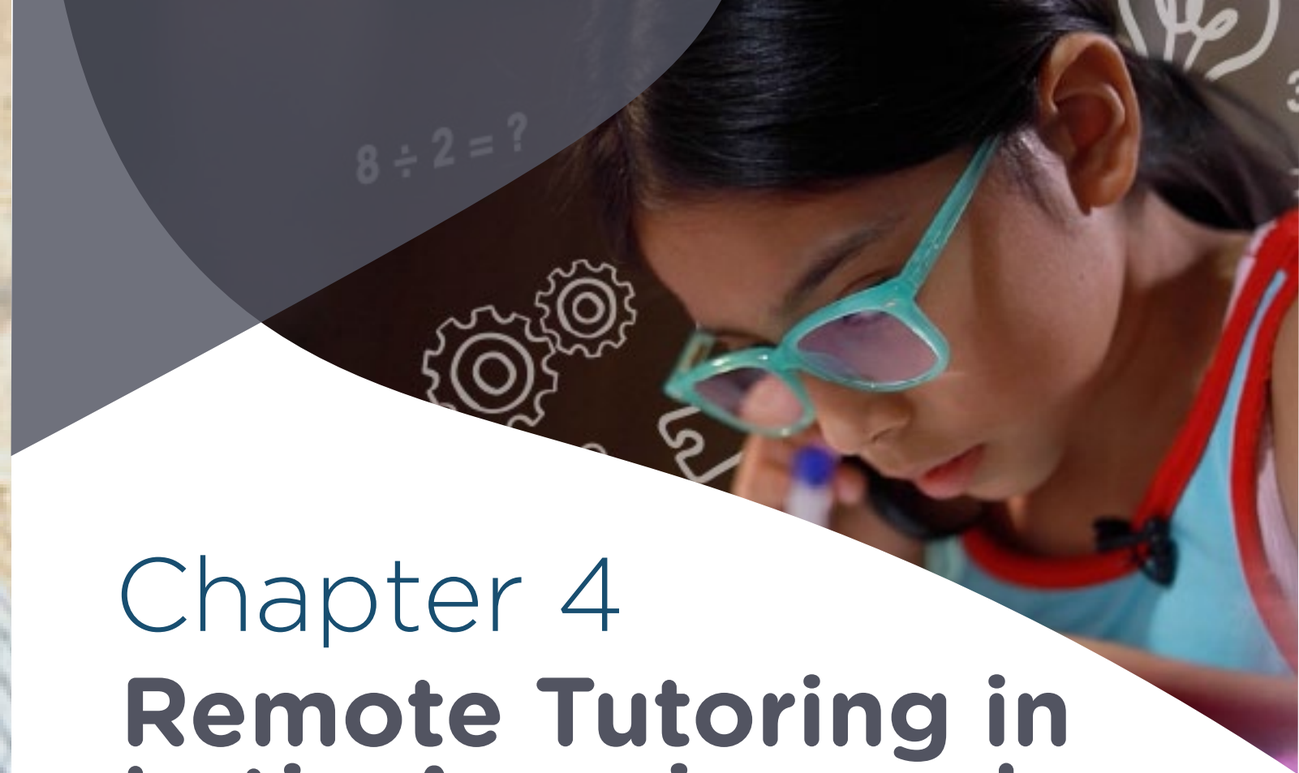
Scope: the proposal is based on alliances with foundations and higher education institutions, with the aim of having 20,000 tutoring sessions in all regions of the country.

Method: The Plan is divided into two lines of action:

1. Tutoring Program with Higher Education Institutions, in which students of pedagogy and related disciplines provide in-person tutoring in educational communities,[55] with interventions ranging from one to three weekly sessions during a period of six to 16 weeks, depending on the training model of each institution;

2. Community Tutoring Program, conducted mainly online and focused on connecting the needs of the educational community with territorial actors[56] and civil society organizations. This program comprises tutoring sessions of 30 to 60 minutes per week for a maximum of 16 weeks.

Prioritization: The Higher Education Institutions Program's tutoring includes tutors from various disciplines (such as math, science and physical education) to strengthen learning recovery and the relationship with the school community, in addition to promoting wellness and mental health at all educational levels. Criteria for selecting students for the program include poor attendance and performance. Community tutoring is aimed primarily at students from 2nd to 4th grade and focuses on developing skills in reading, writing and basic mathematical operations.



Chapter 4

Remote Tutoring in Latin America and the Caribbean

This chapter was developed from the content of the following documents:

América Latina
Experiencias exitosas de tutorías remotas

Miguel Székely,
Felipe Hevia,
Pablo Zoido,
Iván Flóres

Download

Aprendizaje mutuo
No sólo los estudiantes aprenden: los tutores también

Felipe Hevia

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Argentina
Lessons Learned from a Remote Tutoring Pilot

Gastón Gertner,
Guadalupe Dorna

Download

México
Redes de tutoría

Santiago Rincón-Gallardo

Download

4 Remote Tutoring in Latin America and the Caribbean

What did we learn?

- Remote tutoring improves the learning of Latin American students, especially those who manage to complete the program.
- Proper implementation of the project is fundamental to guarantee its cost-effectiveness, and some flexibility is required to ensure the largest possible number of students can complete it.
- Recruitment work with educational authorities and schools is key for families to trust the program and benefit from it.
- Finding the right tutors and maintaining their motivation is crucial, for which monetary and non-monetary incentives can be used.

We have analyzed so far the different aspects of remote tutoring inside and outside Latin America and the Caribbean. Now, what effect does it have (if any) in the region?

The answer to this question is given by the results of the Remote Tutoring Program to Accelerate Learning, implemented by the countries of the region with the support of the Inter-American Development Bank (IDB), academia, and civil society.

The Program aims to accelerate learning in mathematics for vulnerable students aged 9 to 14 in Latin America, after the COVID-19 pandemic accentuated existing learning gaps, and is based on low-technology remote tutoring that does not require internet access or smart devices (Zoido et al., 2023a). Pilots have been completed in Argentina, El Salvador, Guatemala, and Mexico. Brazil, Colombia, Ecuador, Paraguay, Peru, and the Dominican Republic are also implementing remote tutoring programs with IDB support.

Low-tech tutoring is especially important in situations where access to devices and connectivity is limited: only 29% of students from vulnerable households in Latin America and the Caribbean have access to a computer for homework

Low-technology tutoring is especially important in situations where access to devices and connectivity is limited. This is the case for students from vulnerable households in Latin America and the Caribbean, of which only 29% have access to a computer for schoolwork, compared to the regional average of 64% (Rieble-Aubourg and Viteri, 2020).[57]

The Program included experiences at two levels:

- National, in El Salvador and Guatemala;
- Local, in Tabasco and Guanajuato (Mexico), and the City of Buenos Aires and the province of Mendoza (Argentina).

The methodology used was based on interventions made by the ConnectEd program in countries like Botswana and Nepal (Angrist, Bergman, and Brewster, 2022), described in Chapter 3. The Program was planned to be rigorously evaluated and thus generate evidence with a view to future scaling. For this reason, the tutoring was given to a group of randomly selected boys and girls (treatment group), while another group that did not receive tutoring served as control. All experiences took place in the year 2022.

Overall, the results were conclusive in the cases of El Salvador, Guatemala, and Mexico (Tabasco and Guanajuato). Regardless of the type of impact evaluation (experimental or quasi-experimental[58]) and the context (national or local), the students who participated in the Program had a relative improvement in their learning that ranges from 0.155 standard deviations in Guatemala, to 0.234 in El Salvador and 0.408 in Tabasco.[59]

These improvements are considerable when compared with other educational interventions, since experimentally evaluated programs in low- and middle-income countries present an average effect of 0.09 standard deviations in learning (Evans and Yuan, 2022), clearly lower than those of these pilots.

Participating in, remaining in, and eventually completing the Program is associated with even more significant improvements

Moreover, participating, remaining, and eventually completing the Program is associated with even more significant improvements, as a "dose effect" is observed, which means that the greater the amount or intensity of the intervention, the greater the impact on student learning. In Buenos Aires, for example, students who completed the program showed an improvement equivalent to 0.15 standard deviations. In El Salvador and Guanajuato, the marginal impact of each tutoring session was estimated at 0.03 standard deviations.

The effect also covers other relevant dimensions of school life. Mothers and fathers were greatly satisfied with the Tutoring Program. According to their testimonies, students who took part in the Program not only improved their learning but also made progress in their study habits, showed more curiosity about mathematics, and exhibited greater school motivation and self-discipline in carrying out tasks.

If we add the international cases discussed in Chapter 3, it turns out that at least ten implementations of remote tutoring with low technology provide consistent evidence of their positive impact on learning and other dimensions of the educational process, beyond the differences in implementation and context in which the programs take place.

Low-tech remote tutoring is an effective tool that could be part of any educational plan aimed at accelerating learning

There are still aspects to learn about optimal implementation, as well as to identify improvements in the process of recruiting students and tutors that allow maximizing the achievements of the programs. But one certainty emerges after all these experiences: low-technology remote tutoring is an effective tool that could be part of any educational plan aimed at accelerating learning, especially for those who need it the most.

Therefore, and returning to the question with which this introduction began, we can affirm that remote tutoring has a clearly positive effect on learning in Latin America and the Caribbean.

4.1
General Characteristics of the Intervention Model in the Cases of El Salvador, Guatemala, and Mexico

4.1.1 Intervention and Phases

In El Salvador, Guatemala, and Mexico, the Remote Tutoring Program to Accelerate Learning was carried out through a series of eight personalized telephone tutoring sessions for students aged 9 to 14 years. Each call lasted approximately 20 minutes, focusing on specific mathematical operations.

Given its duration and focus on learning mathematics, this intervention was not planned as a substitute but as a complement to formal education, aligned with the curricula of the countries, and implemented in collaboration with the teachers and directors of the participating schools.

The content focused on the essential foundations of numerical instruction, based on three principles:

1. Foundational, as it includes basic skills of numerical position, addition, subtraction, multiplication, and division;
2. Simple, as its design facilitates work with families;
3. Targeted, as it addresses the specific needs of each individual.

In accordance with the pedagogical strategy of "Teaching at the Appropriate Level", each student is assigned a level according to his or her specific abilities based on an initial test

The pedagogical strategy used was "Teaching at the Right Level" (TaRL), which is based on the precise identification of the individual capabilities of students, with the purpose of placing them at various levels of academic difficulty. In other words, the goal is to assign each student a level according to their specific abilities, dissociating it from their grade or age, as their level is identified from an initial test, in this case, basic mathematics. This approach allows for more efficient and personalized teaching, by adapting the educational content to the unique needs of each student (Angrist, et al., 2020; Banerjee et al., 2016; Karthik, Singh, and Ganimian, 2017).

The Program consisted of three major stages:

1. Preparing the intervention, which included raising awareness of the actors[60] and the training of tutors;
2. Executing the tutoring;
3. The continuous evaluation of the Program.

Among the fundamental actions for achieving the objective of the Program are:

- Dialogue with counterparts and local educational authorities;
- Collection of identification data and phone numbers of students;
- Development and analysis of a baseline[61] through a questionnaire that gathered information about the characteristics of the students and their level in mathematics;
- Establishment of a monitoring system that enabled implementation teams to measure changes in learning and, therefore, the impact of the Program.

4.1.2 Profile of the Tutors

People of any age and gender were considered for being tutors, although women predominated (75% of the total). Regarding training, priority was given to students training to be teachers and university students (60%), as well as to graduated teachers or professors (30%), although people with other profiles also participated. In El Salvador, teachers predominated; in Guatemala, university students; and in Tabasco and Guanajuato, teaching students (Table 4.1).

Table 4.1 Profile of the Tutors

	El Salvador	Guanajuato	Tabasco	Guatemala
Predominant profile	Teachers	Teacher training students	Teacher training students	University students
Average age	31	25	22	28
Age range	19-63	18-51	18-51	17-62
Percentage of women	76%	92%	69%	73%
Call for applications				
Professional training: Student to teacher or graduate teacher				
Sex: Indistinct				
Age: Indistinct				
Time availability: At least 10 free hours per week, preferably in the afternoons				
Skills: Minimal digital skills (completing forms on the internet and attending video calls); active listening; assertive communication; capacity for empathy; cordiality and friendliness; flexibility (adapting to the needs of the student and context); command in the subject matter				

Source: *own elaboration.*

The Program required that tutors meet a series of requirements and, in return, offered them support in different areas of their teaching activity.

The Program required tutors to meet a series of requirements and, in return, offered them support in different areas of their teaching activity

1. Requirements of the Tutors

Potential instructors were required to have a minimum time availability of ten hours per week, preferably in the afternoons. They were also required to have minimum digital skills, such as having an email, knowing how to join and participate in a videoconference, and filling out forms online. Moreover, they were expected to be kind and cordial people, with a good ability to communicate with students and motivate them.

2. Support for the Tutors

Each tutor received three elements of support:

- Eight hours of synchronous remote training, with 50% of the time (four hours) devoted to reviewing practical cases and practicing the tutoring function;

- A written guide that explained the operation of the project and the activities that each tutor should follow, such as raising parents awareness to encourage their participation, explaining mathematical processes to children, and filling out the daily record;

- Providing remote assistance via online messaging groups, facilitated by a team of specialized coordinators who resolve queries and track the progress of the mentored students.

4.1.3 Week-by-Week Development

The tutors were trained to perform their function exclusively over the phone. This meant using this technology to develop activities of personalized support, sensitizing parents, explaining mathematical processes to students, and resolving doubts. The system (Figure 4.1) ensured that each student began the tutoring at the level corresponding to their results in the initial evaluation.[62] The students always worked with the same tutor.

Depending on the mathematical level of each student, activities were carried out and materials appropriate for their needs and preliminary abilities were used. For this purpose, participants received a text message once a week

Each of the eight tutoring sessions consisted of a phone call in which, first, the results of the problems previously sent by SMS were reviewed and the student's questions were solved; then, new exercises were presented for the student to practice; and finally, challenges were presented in the form of problems from everyday life

with mathematical challenges[63] and a 20-minute telephone tutoring call.

Each of the eight tutoring sessions consisted of a telephone call, which followed this structure:

1. Review of the results of the operations and problems of the level at which each student was that week, and which the student had previously received via SMS messages;

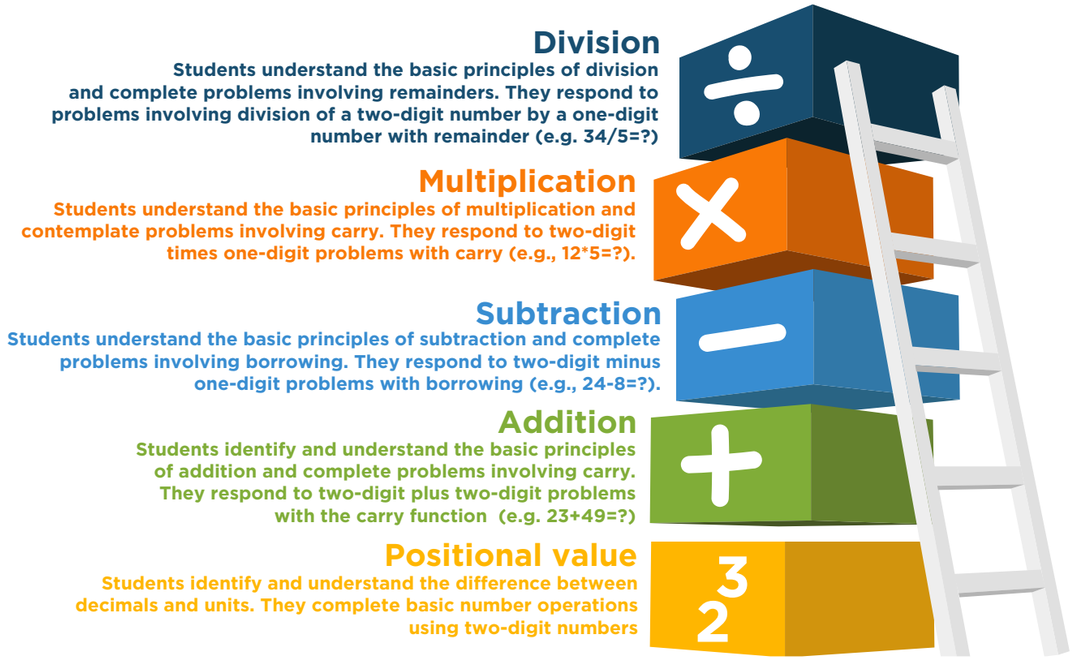
2. Solving of any doubts the student might have;

3. Presentation of new challenges at the same level of difficulty and more exercises for solving operations, and explanation of resolution procedures;

4. Presentation of a series of challenges in the form of everyday life problems to verify the student's mastery of the operations. If the student managed to solve them, the next tutoring session would begin with a new mathematical operation.

Once the call was finished, the tutors completed an online tracking record to register the performance of each participant week by week and to have relevant information about the process.

Figure 4.1 Remote tutoring content



Source: *own elaboration.*

4.1.4 Profile of the Students

The students were from low income and low education backgrounds, with low connectivity and high levels of anxiety

The tutored students belonged to environments with low income and education levels, scarce connectivity, and high levels of anxiety. In every instance, over 75% of respondents indicated they enjoyed studying very much. In none of the pilots were there statistically significant differences between the treatment and control groups.

When the project began, there was still a considerable percentage of students who had not returned to academic normality. In El Salvador, 14% of the students were not taking face-to-face classes, but online or hybrid ones. In Guanajuato and Tabasco (Mexico), 23% and 33% respectively had not returned to face-to-face learning, and in Guatemala, the percentage rose to 62% (Graph 4.1).

As mentioned earlier, the tutoring focused on those who needed it most. For this, the IDB worked with the education ministries of the countries to define in which departments the tutoring should be implemented, aiming to focus on vulnerable areas.

This focus is reflected in four characteristics of the students who took part in the Program:

1. Low socioeconomic level, although it varies according to the regions. In El Salvador and Guatemala, 54% and 57% of the participants, respectively, belonged to a low level, while in the Mexican states of Tabasco and Guanajuato, the percentages were 44% and 38%;

The data show the correlation between socioeconomic status and Internet access, and show that intervention through cellular phones is especially relevant in these environments

2. Lack of internet access. In El Salvador and Guatemala, 63% and 54% of the tutored students, respectively, had no connectivity, although in Tabasco and Guanajuato the percentages were 30% and 22%. These data show the correlation between socioeconomic level and internet access and demonstrate that intervention through cellphones is especially relevant in these environments where not all students can access the internet;

3. High levels of anxiety. Between 32% and 42% of the students showed signs of high anxiety, measured using the Spence Children's Anxiety Scale (SCAS[64]) (Figure 4.1);

4. Low educational level of the adult heads of the families of the students. 81% of the adult heads in Guatemala, 68% of those in Guanajuato and El Salvador, and about 50% of those in Tabasco had not finished high school.

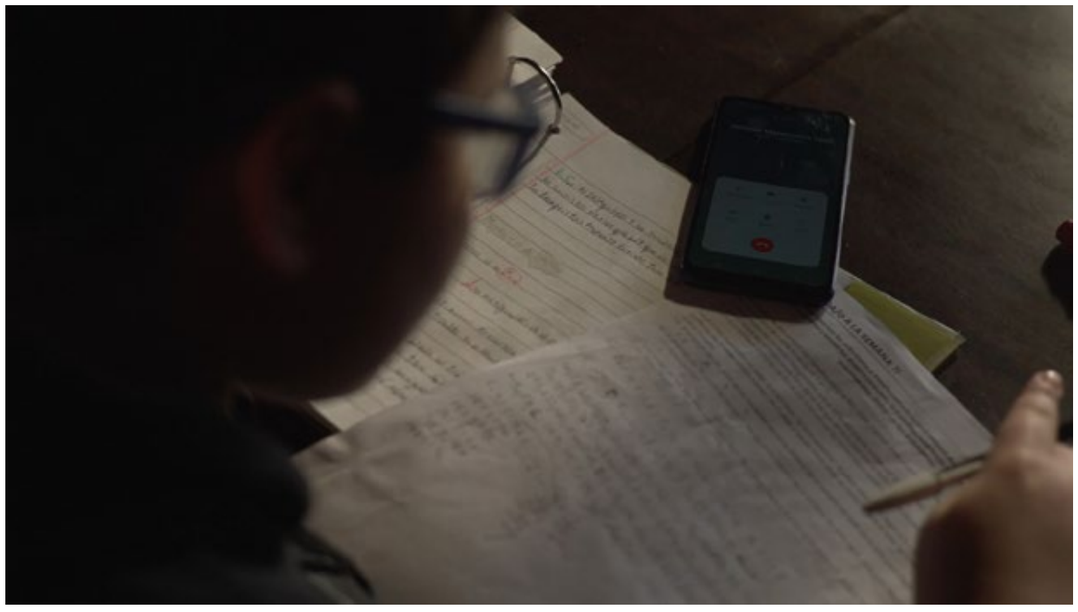
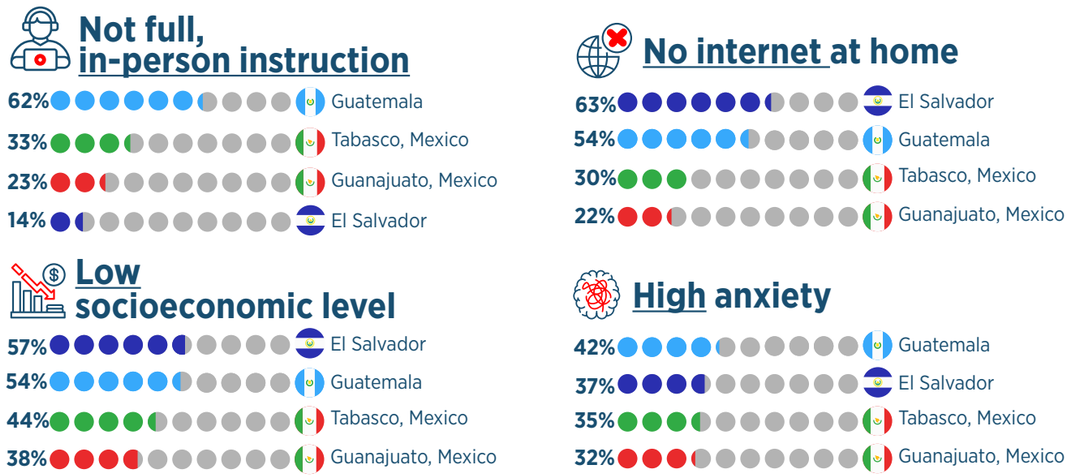


Figure 4.1 Characteristics measured at baseline, of children randomly selected to receive tutoring who responded to follow-up interviews



Source: *own elaboration.*
Note: *for Tabasco, the characteristics of the children effectively treated are shown.*

4.1.5 Diagnostic and Evaluation Instrument

The Remote Tutoring Program to Accelerate Learning used two instruments, "SMS" and "MIA+", which were applied to each student at the beginning and end of the Program to evaluate the evolution of their mathematical abilities.

The "SMS" is an adaptation of the ASER tests (Annual Status of Education Report) used by the NGO Youth Impact in Botswana (see Chapter 3), while the "MIA+" was developed by the Independent Learning Measurement Program (MIA) in Mexico to facilitate educational interventions based on teaching at appropriate levels for students. Being individually applicable, in person or remotely, and in a limited time, both instruments provide valuable data on the level of students' skills, thus facilitating the personalization of the pedagogical intervention.

"SMS" and "MIA+" have an adequate level of reliability, and show a significant and positive correlation between their respective scores (León et al., 2022) that allows accurately identifying mathematical skills in numbers and operations. In addition, both instruments allow comparing the results obtained in Latin America with those of other countries and regions that have implemented similar models of remote tutoring.

In the Program's impact section, data obtained through the "SMS" are presented, which showed significant improvements in students' mathematical abilities.

4.2 Opportunities: The Cases of El Salvador, Guatemala, and Mexico (Tabasco and Guanajuato)

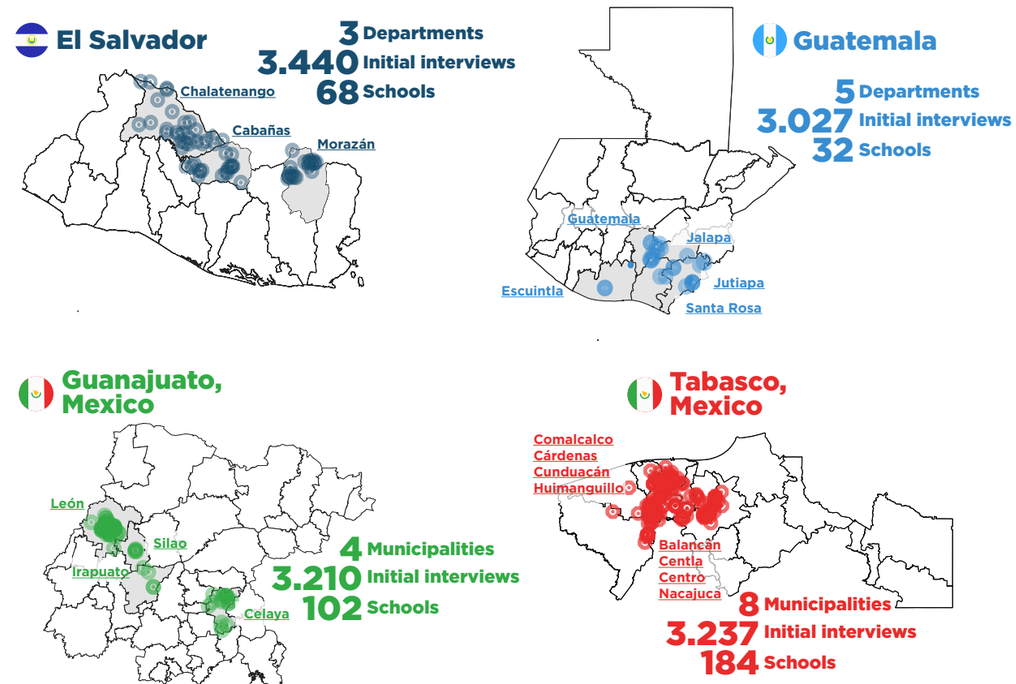
These four pilots shared the same methodology in their implementation and yielded similar results regarding the positive effect of tutoring on the learning process, making them a solid opportunity to observe how a successful learning acceleration program works.

The initial size of each case was calculated to be just over 3,000 students (Figure 4.2), with the aim of achieving a large enough sample to detect significant impacts (Table 4.2). In El Salvador, 2,636 final interviews were achieved;[65] in Guanajuato, 1,144; in Tabasco, 966; and in Guatemala, 1,127. The data collection took place between October 2021 and December 2022.

In the Mexican pilots, there was some initial distrust of the telephone calls from the Remote Tutoring Program. This distrust hindered contact with families, either because they provided incorrect contact information or did not answer the phone, although in some cases there were threats of violence against the surveyors. The solution was to involve, through the Mexican Secretariat of Public Education, schools in the recruitment of families. These efforts were recognized by the IDB, which awarded a prize to the implementing team in Mexico featured in the publication "Heroes of Development 2023" (IDB, 2022).[66]

Figure 4.2 Implementation site and features

Curricular Area: Mathematics
Target Population: Low-income students aged 9-14 years old



Source: *own elaboration.*

Table 4.2 Final Interviews Achieved

	El Salvador	Guanajuato	Tabasco	Guatemala
Initial interview (eligible)	3,440	2,718	3,237	1,689
Final interviews	2,636	1,144	966	1,127
Percentage of recontact	77%	42%	30%	67%
Recontact Treatment group	79%	38%		65%
Recontact Control group	75%	46%		69%

Source: *own elaboration.*
Note: *In Tabasco, randomization was not followed for the final interviews (follow-up line), so the statistics are not disaggregated. For the experimental design evaluation in Guatemala, only 1,315 initially eligible (baseline) were considered, of which 881 responded to the final interviews (follow-up line), which is equivalent to a recontact rate of 67%.*

4.2.1 Results of the Pilot Projects

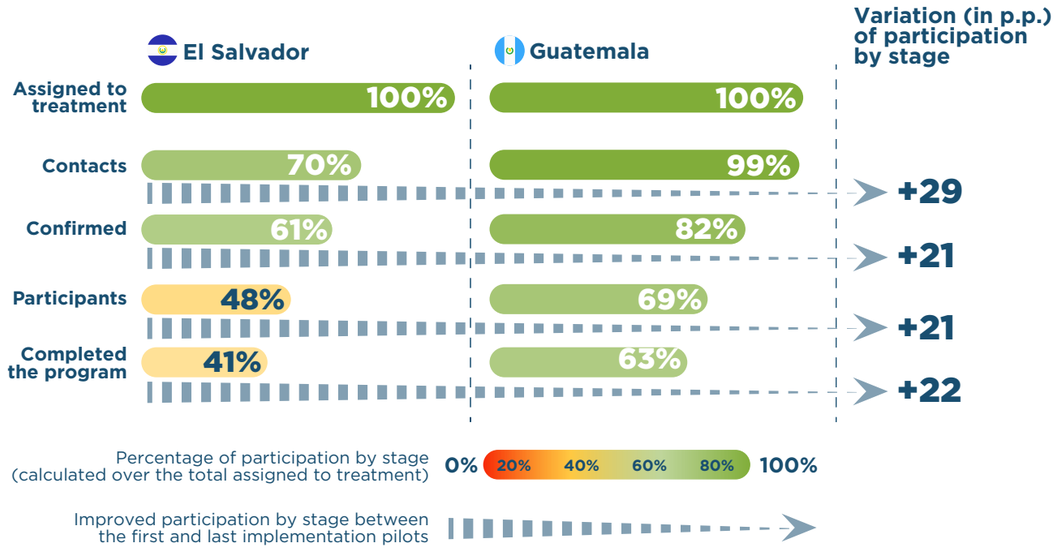
Figure 4.2 illustrates, through a "funnel", the participation process in the Tutoring Program in the first pilot (El Salvador) and the last one (Guatemala).

At the top is the totality of the students assigned to the treatment group (i.e., 100%), then the percentage that was successfully contacted in a subsequent call to the families ("Contacted") is identified.

The third level indicates the percentage that confirmed their intention to participate in the Program ("Confirmed"), and the fourth, the percentage that attended at least one tutoring session ("Participated").

At the base of the "funnel" is the percentage of students who completed the eight tutoring sessions or reached the maximum level of these, which was division ("Completed the Program").

Figure 4.2 Improvement in participation between the first pilot (El Salvador) and the last pilot (Guatemala)



Source: *own elaboration.*

In El Salvador, 48% of the boys and girls took part in at least one tutoring session, and 41% completed the Program. In Guatemala, student participation was 69%, with a completion rate of 63%.

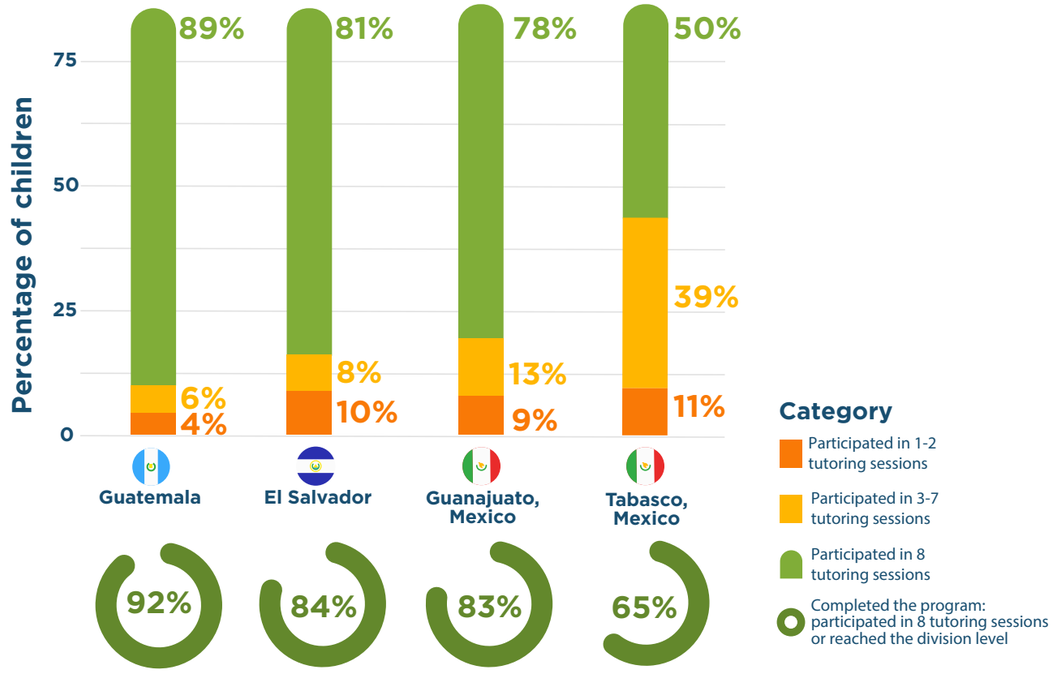
These differences are due to the fact that, as explained before, El Salvador was the first pilot, and Guatemala the last. This allowed the latter to apply the lessons learned about the sensitization process, involving schools more. Learning throughout the implementation of the Program generated an improvement of between 21 and 29 percentage points in all its stages: contact, participation, and completion of the tutoring.[67]

The main reasons for not participating in the tutoring include a lack of contact with the family due to unanswered calls and, to a lesser extent, a lack of interest in the Program, either due to distrust or lack of time of the parents.

Figure 4.3 is constructed from the students who attended at least one tutoring session (unlike the previous graph, which includes all those who were offered to participate in the program). It shows the percentages of completed tutoring sessions (stacked bars for each case), and of students who completed them, either by completing eight sessions or reaching the division level (pie chart). Once the Program started, most of the tutored, either completed the eight planned sessions or passed the last level.

In Guatemala, 92% of the participants who started the Program successfully completed the process by completing the eight tutoring sessions or passing division, while in Guanajuato and El Salvador the percentages were 83% and 84%, respectively. Tabasco had the most difficulties on the ground, as only 50% were able to carry out all the tutoring and 65% completed the Program. In all cases, less than 11% of the students attended only one or two tutoring sessions.

Figure 4.3 Percentage of students according to number of tutoring sessions and completeness of the Program, Mesoamerican pilots



Source: *own elaboration.*

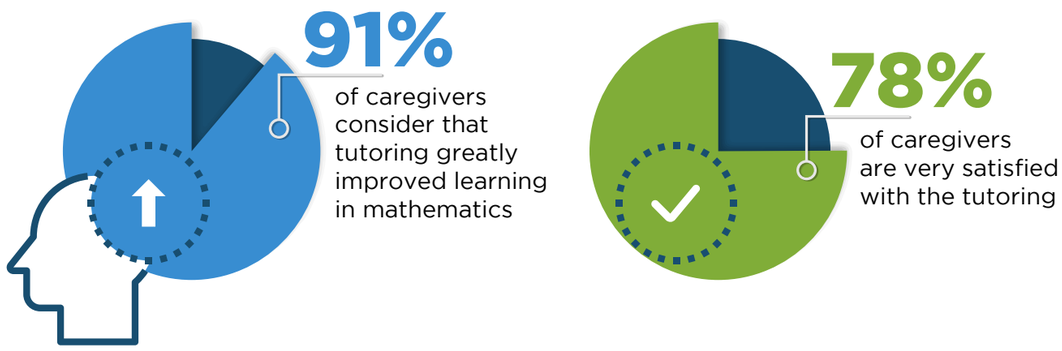
Note: *for more details on the data, see Annex 4.2. The three categories of participation by the number of tutoring sessions add up to 100%. The category "Completed the program" includes those who did the eight tutoring sessions or passed the division level.*

Students developed soft skills, such as self-esteem and self-confidence, and tutors gained a positive appreciation of their own teaching abilities and the effect of their work on students

Regarding the tutors, a survey on self-efficacy and relationships topics was conducted with 258 participants (82% of the total) of the four pilots. The analysis showed that the tutors perceive that the tutoring they provided had a positive impact on them as teachers and also generated a good relationship with the tutored students. Thanks to this perception of self-efficacy, soft skills such as self-esteem and self-confidence were developed in the students, and the tutors acquired a positive valuation of their own capacities to teach and of the effect of their work on the students.

A satisfaction questionnaire with the Program was also conducted for the adults responsible for the students at home. This voluntary survey was answered by more than 90% of the caregivers of the boys and girls who participated in the tutoring and had responded to the final survey. 78% said they were very satisfied with the quality of the tutoring, and 91% perceived that the students improved their learning of mathematics (Figure 4.3).

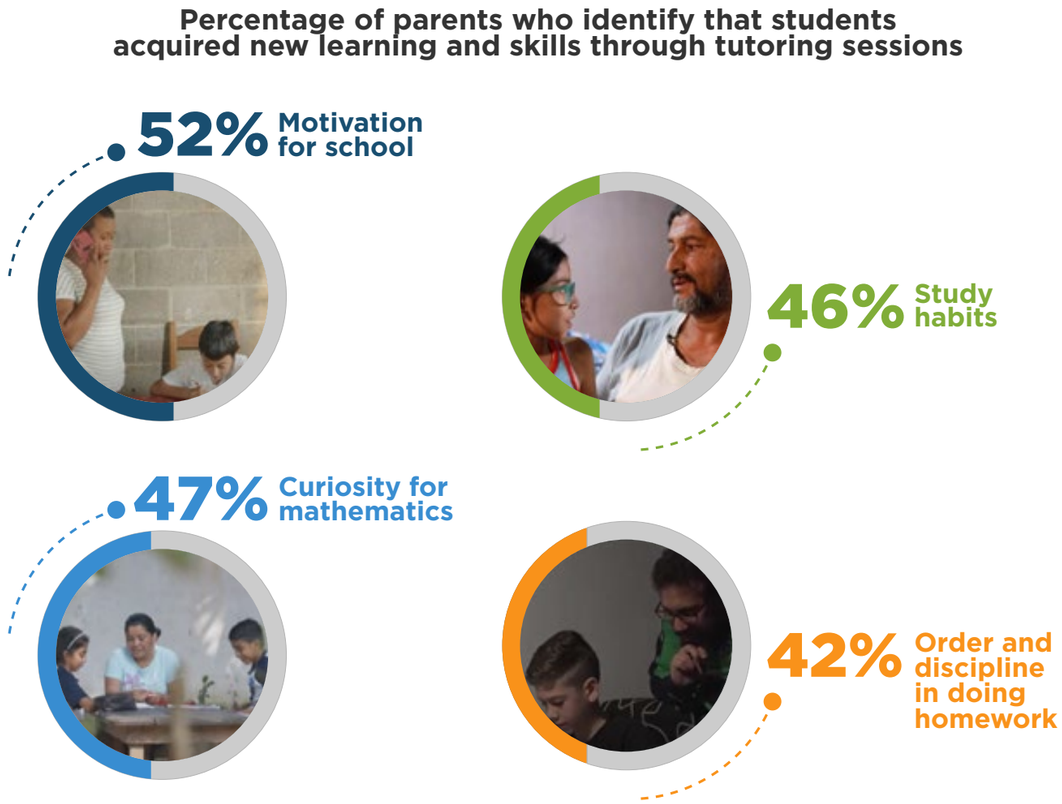
Figure 4.3 Overall caregiver survey results



Source: *own elaboration based on the surveys of the implementations in Mesoamerica.*
Nota: *for more details on the data, see Annex 4.3, where the number of observations and percentages by pilot are disaggregated in tables.*

Furthermore, there is the perception that the tutoring had an influence beyond the specific curricular area, positively impacting other aspects and soft skills related to school (Figure 4.4). 46% of the caregivers believe that the students improved their study habits, and a similar percentage estimate that they developed curiosity for mathematics. According to 52% of respondents, motivation for school increased, while 42% believe that the students developed order and discipline to perform their homework. These results are promising, as they account for the potential of tutoring to complement learning and promote other skills that demand more time and effort for their development.

Figure 4.4 Caregivers perceived student improvements in school-related skills



Source: *own elaboration based on the surveys of the implementations in Mesoamerica.*
Note: *for more details on the data, see Annex 4.3, where the number of observations and percentages by pilot are disaggregated in tables.*

4.2.2 Impacts of the Program

Following the experimental evaluation design (see Box 4.1), two effects were sought to be estimated:

1. What is the average effect on learning generated by assigning students to remote tutoring, regardless of whether they ultimately took it or not (Intention to Treat, ITT)? This question aims to understand the impact of offering the program,[68] which in turn allows us to know the impact it would have if replicated with a group of students with similar characteristics, offering it voluntarily, and with the same rate of compliance by the tutored;
2. What is the effect of the program on the students who actually took the tutoring (Treatment on the Treated, TOT)? Presumably, the impact of receiving the program should be greater than the effect of receiving the offer to follow it. Thus, the TOT is the impact on the tutored, making it of greater relevance for this study.

Information Box 4.1

Types of evaluations and effects

Impact evaluations seek to answer a cause-and-effect question: What is the impact of an intervention (tutoring) on an outcome of interest (students' learning)?

Ideally, to answer this question, we would want to use the same population or individuals (students in our case) with and without the intervention, see what happens in each case, and compare the results. But that is not possible since we cannot measure a student with and without tutoring at the same time, so we must find some way to approximate this ideal situation.

For this reason, evaluation methods estimate the impact of an intervention by constructing a "counterfactual." This means estimating what would have happened to the beneficiaries of the intervention if they had not received it (Gerter et al., 2017). In this way, we can compare the outcome of the beneficiaries (the results of the students who have received the tutoring, something observable) with the estimated counterfactual (what we estimate would have been the evolution of the beneficiaries of the tutoring if they had not received it). The result is the effect of the intervention.

There are several impact evaluation options that allow estimating the counterfactual. "Experimental" methods are based on the random assignment (draw) of the intervention to construct a counterfactual. In these methods, two groups are randomly formed. One, the treatment group, is assigned to the treatment and is offered to receive the intervention. The other, the control group, includes those who are not offered the intervention and serves as a comparison group (see Box 3.2).

In contrast, "quasi-experimental" methods are impact evaluation methods that, while using a counterfactual, are not based on the random assignment of the intervention to construct it (Gertler et al., 2017). For example, the difference-in-differences method compares changes in outcomes over time between the treatment group and the control group. This comparison

over time allows correcting for differences between the groups that are temporally constant (Gertler et al., 2017).

Now, when we conduct experimental evaluations, it may happen that not all individuals assigned to treatment actually take it. For example, in the case of a tutoring program, it is possible that, of the students offered tutoring, some decide to take it and others do not. That is why we analyze two effects:

1. The effect of offering the program (Intention to Treat or ITT) involves comparing the outcomes of those who are offered the intervention (treatment group) and those who are not offered it (control group). Here, the outcomes of the groups as they were originally assigned are compared, regardless of whether those offered the program actually decided to take it or not.

2. The effect on the treated (Treatment on the Treated or TOT). Here, the aim is to analyze what happens to those who actually benefit from the intervention. For this, the results of those who take the treatment are compared with those of the control group. Since this effect focuses on those who receive the intervention, it should be greater than the previous one.

The experimental methodology was used to estimate the results of the pilots in El Salvador and Guanajuato, and the quasi-experimental difference-in-differences[69] methodology was used in Guatemala and Tabasco.[70]

The results are presented in units of standard deviation, which were calculated by taking the difference between the average percentage of correct answers in the mathematics test of the treatment group and the control group, and then dividing it by the standard deviation of the control group.

The estimations show effects of the Tutoring Program of between 0.12 and 0.41 standard deviations, depending on the type of effect evaluated (effect of assigning the Program and effect of receiving the Tutoring Program) and the methodology used (experimental or quasi-experimental).

Graph 4.4 shows the results in El Salvador and Guanajuato. For each country, the first column shows the impact estimation of random assignment to treatment (intention to treat), and in the second, the impact of the Program (having received at least one tutoring session) on the treated participants. The result is that the impact of the assignment to tutoring was 0.12 standard deviations in mathematics learning in El Salvador and 0.21 standard deviations in Guanajuato.

With those values, it turns out that the impact of tutoring in El Salvador and Guanajuato was medium if we take the reference points proposed by Kraft (2020), which establishes that an effect is low if it is less than 0.05 standard deviations; medium, if it is between 0.05 and 0.20 standard deviations; and high if it exceeds that last value. In contrast, the results obtained in the pilots exceed the average effect of 0.09 standard deviations in educational programs conducted in low- and middle-income countries as derived from the review by Evans and Yuan (2022).

However, the impact of the Program on students who actually took part of it was high according to the reference points proposed by Kraft (2020), reaching 0.23 standard deviations in El Salvador and 0.21 in Guanajuato.

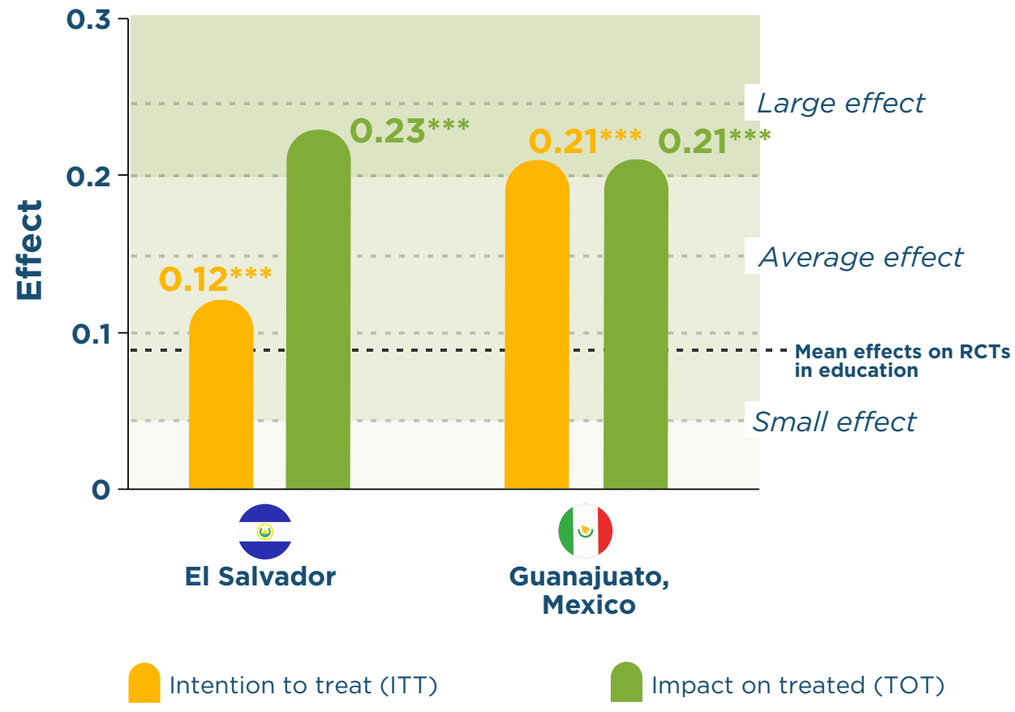
If another reference (Angrist et al., 2020) valid for Latin America and the Caribbean is accepted, which estimates that learning in one academic year in a high-performing school system would be 0.8 standard deviations, we could consider that the results of the pilots in El Salvador and Guanajuato are equivalent to progress in the environment of 29% and 27% of one academic year, respectively.

Another way to present the results is in terms of the observed progress in learning in the control group, between the baseline and follow-up lines. Since both the control group and the treatment group showed progress between the initial and final diagnostic tests due to schooling itself and the return to face-to-face classes (Zoido et al., 2022), the results of the Program are expressed with respect to the progress of the control group.[71] With this methodology, it is obtained that assigning students to tutoring is equivalent to 17% and 32% of the observed progress in the control group in El Salvador and Guanajuato, respectively, and to 33% of the progress in the control group in both cases when the impact on the students who were actually treated is observed.

To evaluate the cost-effectiveness of tutoring, we used Learning-Adjusted Years of Schooling (LAYS), which refer to how many years of high-quality schooling an intervention

equals in a given context (Angrist et al., 2020). Considering the learning gains obtained in these pilots and their cost, and contrasting this information with the international reference point of one year of high-quality schooling, proposed by Angrist et al. (2020), we find that these tutoring pilots reached 40% of a high-quality year (LAYS) for every US$100 invested, making the intervention a cost-effective alternative in the educational field.

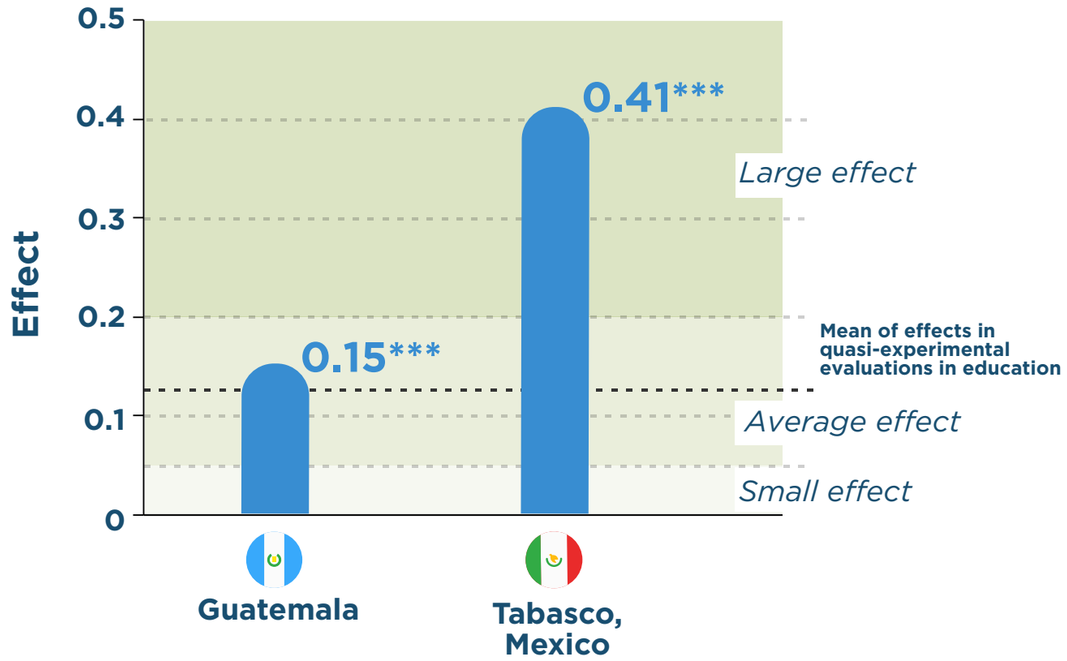
Figure 4.4 Program impacts, in standard deviations, SMS test. El Salvador and Guanajuato



Source: *own elaboration.*
Note: *for more details on the data, see Annex 4.4. Significance levels: *p< 0.10, **p < 0.05, ***p < 0.01.*

The two evaluations with quasi-experimental methods in Guatemala and Tabasco also showed positive results (Figure 4.5). In Guatemala, the evaluation using difference-in-differences obtained that the Program has an effect of 0.15 standard deviations in mathematics learning. In Tabasco, the same methodology showed even more favorable results, of 0.41 standard deviations.

Figure 4.5 Program impacts, in standard deviations, SMS test. Guatemala and Tabasco



Source: *own elaboration.*
Note: *for more details on the data, see Annex 4.4. Significance levels: *p< 0.10, **p < 0.05, ***p < 0.01.*

In the four cases analyzed in this section, the results show that the number of tutoring sessions matters and, on average, the results were greater for those students who took more tutoring sessions (see Box 4.2).

Information Box 4.2

Content taken from the brief by Székely et al. (2023). Remote Tutoring Program to Accelerate Learning.

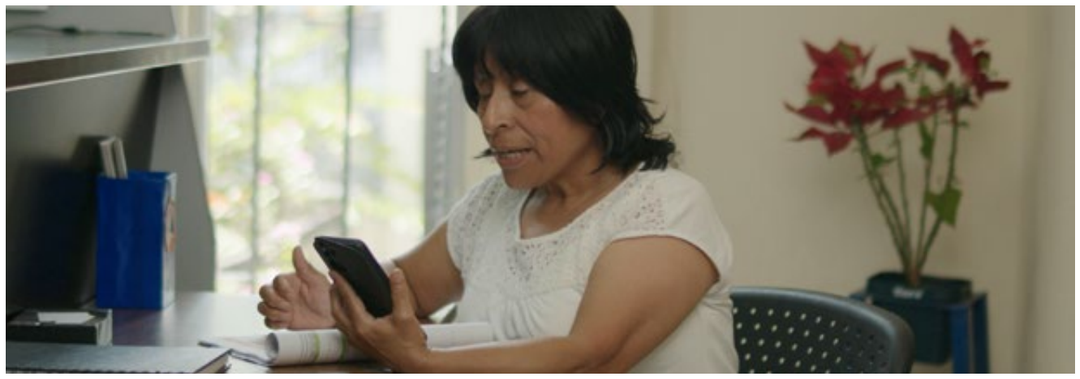
The Number of Tutoring Sessions Matters

The analysis showed that each additional tutoring session improved learning by 0.03 standard deviations in El Salvador and Guanajuato, and a slightly higher figure in Tabasco (0.05). In all cases, a positive and significant association was also verified between the completion of the eight tutoring sessions and learning in mathematics, which is 0.128 standard deviations in Guatemala and up to 0.437 in Tabasco (Table 4.3). These results highlight the importance of intensity: the more tutoring sessions, the better the learning outcomes.

Table 4.3 Association of the Program and the Number of Tutoring Sessions Completed, in Standard Deviations, IDB-Young Test

	Association, 1 Additional Tutoring	Session Association, 8 Tutoring Sessions
	Improvement in Mathematics Test in Standard Deviations (SD):	Improvement in Mathematics Test in Standard Deviations (SD):
El Salvador	0.033	0.29
Guanajuato	0.030	0.27
Guatemala	0.017	0.128
Tabasco	0.051	0.437

Source: *own elaboration. For more details on the data, see Annex 4.4.*
Note: *Significance levels are less than 5% in all cases, except in Guatemala, where it is 10%.*



4.3 Lessons: The Cases of Argentina (City of Buenos Aires and Mendoza)

The interventions in the Autonomous City of Buenos Aires (CABA) and in the province of Mendoza, Argentina, did not yield the positive results in terms of learning that characterized the international and regional experiences previously discussed, as they failed to reach a sufficient number of participants to endow their evaluation with enough statistical power.

4.3.1 Some Specifics of the Context of CABA and Mendoza Cases

These two experiences reinforce the importance of Remote Tutoring Programs, like almost any educational policy intervention, being articulated with the priorities of local authorities and the involved schools, to ensure that their implementation has the necessary level of support to reach as many participants as possible.

Both in Buenos Aires and Mendoza, the programs were implemented in a post-pandemic situation where there was a deployment of initiatives at different levels of government (national, provincial, and municipal), which was added to the efforts of each school to, with varying degrees of commitment and resources, try to recover the learning lost during the school closure period (Dorna and Gertner, 2023).

In fact, the intervention in CABA coincided with the Virtual School Support Space (EVAE), another program of remote tutoring based on the use of more complex technologies (see Box 4.3). In Mendoza, the large offer of simultaneous programs that schools had probably contributed to the difficulties faced by the Program in recruiting students.

Information Box 4.3

EVAE in the City of Buenos Aires

The Virtual School Support Space (EVAE) is a program of the City of Buenos Aires Government to provide support in mathematics, language practices, and social sciences in primary school; and mathematics, language and literature, and social sciences in secondary school. The program is articulated with the School Pathways Support Centers (CATE), where face-to-face school support is provided for the accreditation of subjects owed in secondary school.

The classes are virtual, 45 minutes long, and in groups of up to 20 students, although usually between 10 and 15 attend. Students know about the program through dissemination by the Communication area of the Ministry of Education, as well as by recommendation from teachers and participating families. Registration is voluntary, and the classes are organized by topic, so the tutored students decide, according to their needs, in which classes they want to participate and how often. Although the presence of an adult throughout the class is not essential, EVAE recommends the presence of a family member during meetings with primary school students.

The tutors (counselors) are experienced teachers, selected by the EVAE team. They receive technical training in the use of pedagogical resources and adaptation of classes to the virtual format.

In 2022, 13,254 students registered, of whom 7,102 attended virtual classes. Both figures are more than double the objectives for that year, which were 3,300 registrations and 1,650 attendees. The most in-demand subject was mathematics.

EVAE is free of charge for families. Its current budget is 800,000 pesos per month in salaries for the team.[72]

The future objectives of the program are:

- To incorporate support in natural sciences;
- To hire more mathematics teachers;
- To incorporate more areas both for the support classes and for the pathways for accrediting subjects owed in secondary school in biology, physics, chemistry, history, civics, and geography.[73]

The pilot's design involved adjustments to the pedagogical proposal in order to maximize alignment with the official curriculum. Thus, it was decided to remove the obligation to pass a unit before moving on to the next. This means that, from the TaRL approach, the assignment of the initial content of the tutoring according to the student's level at the beginning of the Program was retained, but the students' possibility of continuing working on a topic until demonstrating their learning was set aside. It is possible that this change eliminated the possibility of students experiencing a sense of achievement as they progressed through the Program, which in turn could have had repercussions on their results.

More specifically, an initial diagnostic test with nine questions was designed and applied during the initial contact with the family. This evaluation allowed forming three groups based on the number of correct answers and adjusting the tutoring to the initial learning needs of each student. Thus, students in each group faced different "circuits" that differed in the topics with which they started the tutoring (although maintaining the totality of topics to be developed).[74]

Another pedagogical variation versus the cases of Mexico, El Salvador, and Guatemala was that the tutoring in Argentina had exercises of greater difficulty, being more based on problem-solving than on simple mathematical operations.[75]

4.3.2 *Difficulties in Recruiting Families and Strategies to Overcome Them*

The experiences in Argentina began in the City of Buenos Aires, and the lessons learned there were later applied in Mendoza.

In CABA, challenges arose early on in encouraging household participation during the implementation phase. This led to a change in strategy on the fly to increase participation although, given the timeframes of the intervention, a minimum level was ultimately not reached to confidently establish the quantitative effects of the Program.

Originally, the strategy in the City of Buenos Aires consisted of recruiting families following a list provided by the local Ministry of Education that contained basic information about the students –whose ages had to be between 10 and 13 years– and their responsible adults, as well as a contact telephone number. From the initial 28,308 records, a potential sample of 5,122 households[76] was identified, which the team contacted to introduce the Program and explain its objectives. After three weeks in this sensitization phase, 503 families of the 3,958 contacted were enrolled, that is, just 13%.

To increase the sample size, a parallel strategy based on enabling self-enrollment in the system of families who had been informed of the Program by the school was launched.[77] These families could complete a form with their contact details and give consent to receive a telephone call in which they were briefly informed about the functioning of the Program. This variation in the recruitment strategy generated the self-enrollment of 769 more families in five weeks. From that group, 526 students joined the Program, which represents 43.7% of the final sample of 1,204 students.

Unfortunately, due to the attrition of the sample (students who did not respond to the survey at the end of the Program, either because they had abandoned it or for other reasons), 832 students completed the program, a figure insufficient to guarantee statistical reliability in the evaluation of the Program. Therefore, it is foreseeable that, if a strategy of wide coverage and duration for self-recruitment of households is adopted from the beginning in the future, including direct participation of the school, it will be feasible to achieve a participation that allows visualizing the real impact of the tutoring.

The case of Mendoza provides an additional lesson. The self-enrollment strategy requires that the program has enough visibility to generate the interest of the necessary number of families. But, in that province, after five weeks only 475 families self-registered, of which 406 met the requirements to participate in the tutoring program. Although the conversion rate between interested (and eligible) households and recruited students was very high (81%), the total number of participants was insufficient to rigorously evaluate the results of the Program.

4.3.3 *Recruiting and Motivating Tutors: Teacher Training Students as Tutors*

One of the biggest challenges of any remote tutoring program is defining the profile of the tutors and establishing recruitment mechanisms that stimulate their commitment and motivation. On the one hand, it is necessary to determine *ex-ante* who can fulfill the responsibility of accompanying participating families and establishing a tutoring relationship. On the other hand, it is essential to consider what incentives to use to recruit tutors and encourage their participation in the program.

The Remote Tutoring Program to Accelerate Learning was no exception, and in facing these challenges, it sought a tutor profile that included the following characteristics:

- Being enrolled in higher education (tertiary or university level);
- Demonstrating dynamism and willingness to solve problems with active listening skills, understood as the tutors' ability to pay active and effective attention to what students are expressing during tutoring sessions;
- Having experience in the educational system and/or in formal educational activities;
- Showing responsibility, commitment, and a positive attitude towards the task;
- Accepting a commitment to confidentiality in handling information.

The potential tutor's interest in participating in the Program was based on the opportunity it provided to gain professional

experience as part of their educational trajectory, in addition to the economic incentive for completing the eight sessions with their students.

The intervention in the City of Buenos Aires began by evaluating options based on experiences from other countries, which included hiring university students. However, not enough potential tutors with some degree of knowledge about teaching mathematics at the primary education level were found. Given this situation, and considering that participation in the Program could also be a formative opportunity for the tutors themselves, the search was redirected to teacher training institutions of the Ministry of Education of CABA.

To call for tutors, and in agreement with the relevant educational authorities, promotion activities were carried out through teacher training institutes and the University of the City of Buenos Aires, including flyers with information about the project, the tutor's profile and their responsibilities, as well as an application form. All interested people were invited to attend an informational meeting about the general context in which the proposal would be implemented, the work schedule, the desired profile, and the administrative steps. More than 100 applications were received from 20 teacher training institutes and the University of the City of Buenos Aires, and 69 tutors with the established characteristics were hired. Among them were students of primary education teaching and advanced mathematics teacher training students who had completed relevant courses in education.

Given the experience in CABA, the implementation in Mendoza was also oriented towards teacher training institutions, but with the added incentive that the tutoring hours generated teaching credits necessary for graduation, which significantly increased the number of candidates.[78]

4.3.4 Ensuring Quality

One of the main challenges in implementing tutoring is ensuring that all students receive quality tutoring and constant attention, thus achieving consistency in the service provided. To this end, a series of actions were implemented.

On the one hand, as part of the tools provided to the tutors, a virtual campus was developed in which training and support were provided to the tutors. Training resources were shared with the tutors on this platform, and weekly discussion forums were established for the tutors to share experiences and best practices, thus promoting collaboration among them.

On the other hand, an ecosystem of monitoring and follow-up was designed, combining a platform for data collection, a control dashboard that allowed visualizing alerts, pending cases, and the overall progression of the program; and the previously mentioned virtual campus, where tutors and coordinators interacted daily, allowing instructions and queries to flow between them.

4.3.5 Program Impacts

Although, as previously explained, the experience in Argentina did not generate results with the necessary statistical value, the evidence in the case of the City of Buenos Aires does have certain characteristics that are associated with improvements in learning.

The impact analysis points out as a fundamental factor that students complete the Program, as by doing so they show better performances, with a gain equivalent to 0.15 standard deviations compared to statistically equivalent students. The evaluations also account for the importance of the motivation of the tutors.[79] The study constructed an indicator of tutor engagement[80] that detected that the most engaged tutors were associated with a greater number of tutoring sessions completed by their students. On average, students with tutors with the lowest engagement index completed five tutoring sessions, while those with highly engaged tutors conducted 1.37 more tutoring sessions.

Although it is difficult to establish how low-technology remote tutoring can impact the learning process in Argentina, these experiences maintain their relevance, as they allow learning about some fundamental aspects of the successful implementation of the programs.

4.4 Lessons from a Regional Perspective

As in other international experiences, the general result that emerges when analyzing the Remote Tutoring Program to Accelerate Learning is that remote tutoring using telephone calls is successful and allows focusing on groups of students with specific needs. This tool then allows conceiving far-reaching and high-impact education plans.

A difference between the cases of Mexico, Guatemala, and El Salvador, compared to Argentina, is the percentage of students who completed the Program.

A key element for the impact of these programs is their continuity and the amount of tutoring that students complete

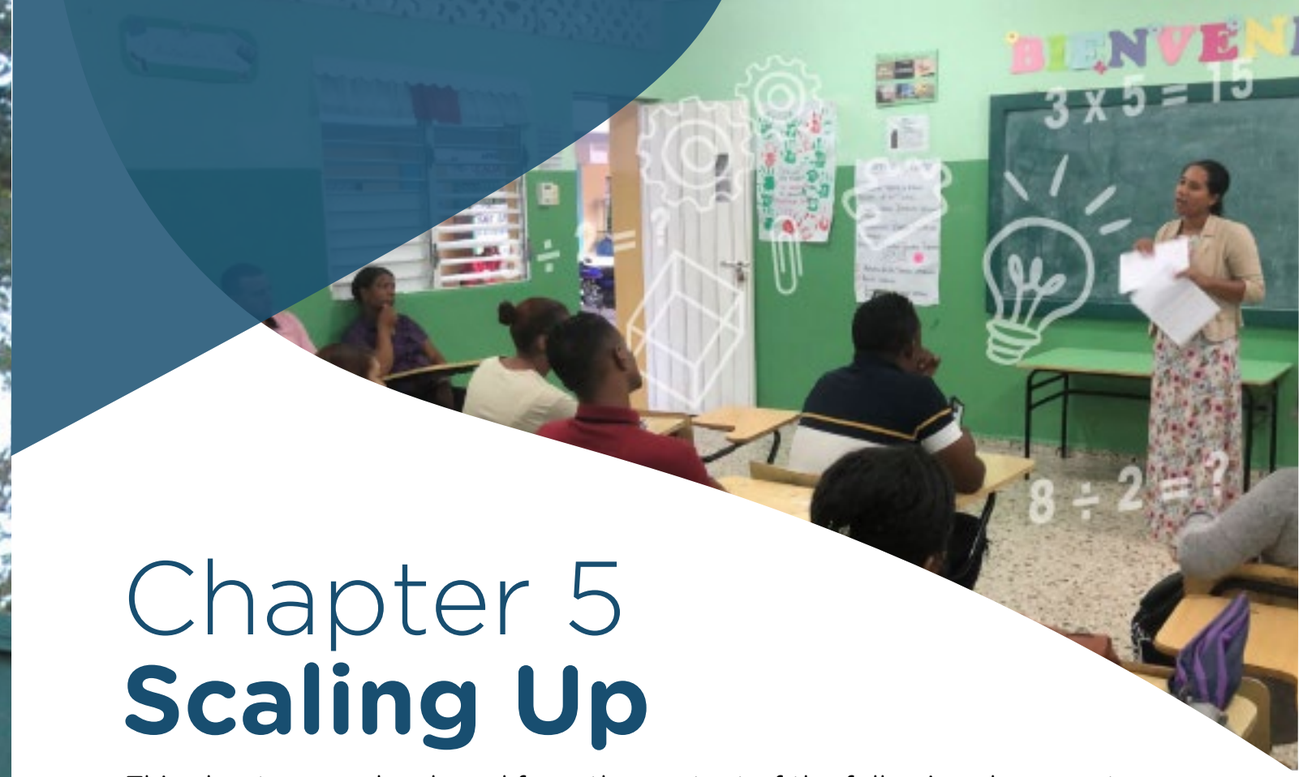
In Mexico, Guatemala, and El Salvador, where the completion rate was substantially higher than in Argentina, completing the tutoring is associated with a higher increase in learning. That is, a fundamental element for the impact of these programs is their continuity and the number of tutoring sessions that students complete.

We do not yet know if there is an optimal number of tutoring sessions, that is, if "more" is always "better", or if there is a point at which an additional tutoring session lacks marginal impact. But it is clear that the eight sessions proposed by the Tutoring Program generate an impact and have the capacity to reduce the educational gaps that characterize students from the most vulnerable sectors. The importance of the number of tutoring sessions suggests that strategies are needed to ensure the attendance of its beneficiaries.

The importance of the number of tutoring sessions suggests that strategies are needed to ensure the attendance of their beneficiaries

It is also important to note that each case has some particularity in its implementation, as evidenced, for example, in the differences in the methods of recruiting students and tutors. The number of experiences carried out does not yet allow establishing a "user manual" that can be strictly applied in any context. On the contrary, the experiences discussed show the need for some degree of flexibility in order to be in tune with local objectives and thus facilitate the necessary coordination with other educational interventions to avoid a saturation of interventions in schools that diminish the impacts of the programs.

For now, we have the evidence generated so far and the lessons learned from the experiences carried out. We have documented these learnings in a Toolkit for remote tutoring (Zoido et al., 2023b). Some of the general recommendations are revisited in the next chapter.



Chapter 5
Scaling Up

This chapter was developed from the content of the following documents:

Scaling Tutoring
Five Key Factors to Benefit More Students

David Parker

Download

Challenges and Solutions
Scaling Tutoring Programs

Leiah Groom-Thomas,
Chung Leung,
Susanna Loeb,
Cynthia Pollard,
Nancy Waymack,
Sarah White

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Masificar el impacto
Esquemas de colaboración

David Gironza

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El reto de escalar programas de tutorías

Inés Aguerrondo,
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Tutorías en Iberoamérica
El desafío de acompañar trayectorias escolares diversas

Gachy Cappelletti,
Natalia Savransky

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5 Scaling up

What did we learn?

- Remote tutoring has two major effects: 1) Accelerating academic learning and 2) Improving learning in non-academic areas relevant to life, education, and work.
- The variety of contexts in which remote tutoring has been implemented, as well as its different designs, demonstrate its robustness and flexibility.
- The evidence suggests that this approach has the potential to expand on a large scale and generate a transformative effect on educational systems worldwide.

Rigorous evaluations, conducted with the support of the IDB, of remote tutoring experiences in Latin America and the Caribbean, combined with evidence gathered in Europe, Africa, and Asia, offer a set of learnings and reflections for scaling up this type of interventions (Zoido et al., 2023). According to Duflo (2004), when rigorous and systemic impact evaluations with positive results are conducted, they become international public goods as the benefits of the evaluated program have the potential to extend far beyond an organization, a program, or the country that implemented it. That is, remote tutoring programs that have proven successful can be adapted for use in other countries and can be expanded within countries.

Large-scale remote tutoring programs are a promising strategy to help solve structural problems in Latin America and the Caribbean

Large-scale remote tutoring programs are playing an increasingly prominent role in the educational policies of national and subnational governments. In Latin America, they are also a promising strategy to help solve structural problems of the region, such as inequality.

Latin America and the Caribbean have extensive experience in tutoring programs with different characteristics, which were identified in a survey conducted in 2022 by the IDB and REDUCA (Almeyda, Gil, Vinacur, and Zoido, 2022). This effort culminated in a community of practice where synergies were built among organizations that have carried out these types of implementations, enriched the experience of tutoring in the region, identified best practices, systematized them, and disseminated them (Vinacur, Cappelletti, and Schenone, 2023).

Given this accumulation of experiences and the urgency to accelerate learning in the region, the time has come to discuss the scaling up of remote tutoring.

To address the scalability of these programs, we must first define which aspects of the implementation are key and which are recommended to adapt to the context in which they will be intervened. Additionally, address the considerations and effects to be taken into account in a scaling process.

The first part of this chapter will focus on recommendations for scaling up tutoring. The conceptual framework in which these recommendations are developed is described in Module 5.a. Module 5.b presents a methodology for estimating the cost of scaling up large-scale remote tutoring programs to benefit the acceleration of learning among students who are most behind in their learning according to international standardized tests. Module 5.b also includes the results, the estimated cost, of applying this methodology to the countries of Latin America and the Caribbean.

5.1 Scaling Remote Tutoring Programs

To achieve scalability of remote tutoring, it is essential to recognize it as beneficial to the students

To achieve the scalability of remote tutoring, it is essential that they be a fundamental part of the educational system. This implies recognizing them as beneficial for students and as a complement to the learning developed in educational centers.

Scaling remote tutoring at the level of a particular educational system requires finding an ideal midpoint between opportunities and challenges in at least two dimensions:

1. Fidelity versus flexibility. Since tutoring can be implemented in various contexts, a balance must be found between fidelity to the key mechanisms of the program and flexibility for elements that are not key. Thus, different actors can adapt the implementation to their specific situations.

2. Benefits versus risks. Implementing small-scale remote tutoring programs generates a series of benefits that, when scaled up, can positively affect the system in terms of feedback effects and balance but can also bring risks and challenges in terms of temporary effects and balance.

This section describes the main lessons learned in the experiences of remote tutoring at a global and regional level in terms of how to find and what could be the ideal midpoint in these inflection or tension points between opportunities and challenges. The first part of this section will clarify which quality assurance mechanisms appear as essential to ensure the success of tutoring and should be implemented with fidelity; and which can be adjusted according to the context, having more margin of flexibility in a particular implementation. The second part will present the potential benefits and risks to consider when scaling remote tutoring programs at a systemic level, based on experiences on a much smaller scale.

5.1.1 Key Mechanisms for Ensuring Quality and Results of Remote Tutoring

Remote tutoring programs, despite being characterized as a flexible intervention, have some aspects that guarantee quality and success in implementation. Figure 5.1 presents these aspects and then briefly describes them as they have already been explored in previous chapters. The lessons learned listed here are based on the experiences described in Chapters 3 and 4. While this section makes an effort to present them in a schematic and simple way, Chapters 3 and 4 discuss all the keys and details on how to design and implement these quality assurance mechanisms in practice and how to bring them to the field in different contexts outside (Chapter 3) and inside (Chapter 4) Latin America and the Caribbean.

Figure 5.1 Key mechanisms for quality assurance and results of remote tutoring

Source: *own elaboration based on conclusions of Chapters 3 and 4.*

1. Acceleration of learning. The implementation should focus on outcomes, that is, on academic performance measured by learning. From this base, the acceleration of the learning process should be emphasized. Lastly, these efforts must be an integral part of a national policy for the entire educational system, responding to the poor and unequal educational outcomes that characterize the region.

2. Continuous evaluation. The constant measurement and monitoring of students' results are key. This task should be developed by the tutors and also independently with a set of tools that evaluate at the beginning, in the middle, and at the end of the process. Only in this way tutoring can be adjusted to the appropriate level and at the same time progress at a good pace. It also allows identifying challenges for tutors early and giving them timely support, and, if necessary, correcting actions on the go.

3. Personalization. The focus of tutoring should be personalized according to the needs and levels of the students and respond to well-established objectives. This is reflected in adjustments in: i) the contents, ii) the forms and strategies used to teach different concepts, and iii) the pace of progress. While this is possible in small groups, one-on-one interaction is always more powerful. Something to continue investigating are the possible peer effects when groups are larger, to determine if they are positive or negative.

4. Accessibility. Using communication channels that adapt to the connectivity possibilities of each family, particularly among the most remote or disadvantaged populations. Applied to countries in the region, in many areas the telephone appears as the only viable solution, but it should not be the only channel, a multi-channel strategy can be designed to reach each student in the best and cheapest way for the family.

The aspects of acceleration and personalization imply the need for these programs to complement classroom teaching of fundamental academic subjects. Remote tutoring is more promising as an additional tool that provides personalized attention to students who need it most; they receive individualized support to reinforce and deepen essential learning and to strengthen their foundational knowledge and skills.

In summary, the acceleration of learning, continuous evaluation, personalization, and accessibility are aspects that should be considered as pillars in any remote tutoring intervention. This means that, regardless of the context in which they are implemented, these aspects must remain within the design and execution of the program.

5.1.2 Aspects of a Remote Tutoring Program that Can Be Adapted to Its Specific Context

Flexibility is important in remote tutoring interventions because it allows programs to be adapted to the unique characteristics of each educational environment.

There are four issues that define each remote tutoring program (see Figure 5.2):

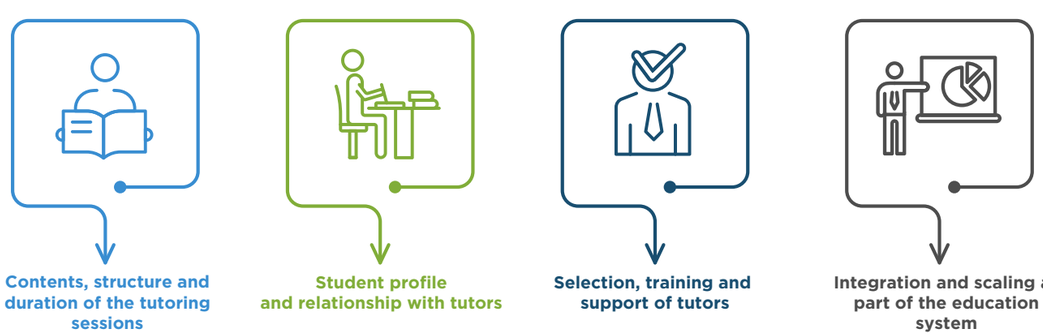
1. Contents, structure, and duration of tutoring.

2. Student profile and relationship with tutors.

3. Selection, training, and support of tutors.

4. Integration and scaling as part of the educational system.

Figure 5.2 Aspects susceptible to adaption



Source: *own elaboration based on conclusions from chapters 3 and 4*

5.1.2.1 Contents, Structure, and Duration of Tutoring

There is no single design for tutoring, but there are three key elements that its design must consider. Its contents, structure, and duration can vary according to the objectives of the program and the type of tutors and students, but they must be clearly delineated.

The **content** has two key elements: 1) the guides for tutors and 2) the curricular area. The guides for tutors are the main tool for developing content and training tutors. They consist of a script that indicates the step-by-step for the tutoring, detailing each concept week after week. The standard instruction guides used by tutors should be adapted to align with the national curriculum and the competency framework of each country. Added to this is the technological component, as it is not the same to teach mathematics in a classroom with 30 students as it is to do so over the phone for just one. If the tutoring is carried out using low-cost technology such as the phone, it is even more important that its content can be developed through phone calls, SMS text messages, video calls, virtual platforms, and WhatsApp calls, whose duration will necessarily be limited.

The other key aspect of the tutoring content is the curricular area: mathematics, reading, or science, for example. The programs designed so far tend to focus on mathematics, although some have added languages, such as the "Tutoring Online Program" (TOP) in Italy, which has been analyzed in Chapter 3 (Carlana and La Ferrara, 2021, 2023). However, tutoring can address other areas, such as reading or sciences, depending on the priorities of the educational policy of the countries. Each area requires a specific design not only of its content but also of its structure and duration.

Regarding the **duration**, there are three aspects to consider: 1) frequency (how many times a week, for example), 2) the time during which the tutor and the student interact directly, and 3) the total number of target sessions. Tutoring programs that are carried out more frequently may be more effective, although they also run the risk of requiring additional effort from students and their families, which can be counterproductive in terms of commitment and attendance.

The duration of the interaction will be limited or facilitated by the technology used for communication: an in-person tutoring session can have a longer duration than one by phone, since the level of attention and focus of the students will not necessarily be the same (with video calls as an intermediate alternative). This is what can be deduced from the implementations of different models of tutoring so far in different contexts using a particular technology. In addition, the literature shows that the most effective and economical tutoring sessions are those of limited duration over time, but with greater intensity, versus an indefinite support program, which, for example, includes an academic course, grade, or level of education (Robinson, Kraft, Loeb, Schueler, 2021).

Regarding the total number of sessions, it is important to consider that a crucial aspect of these interventions is that they be cost-effective, so a model of a few tutoring sessions (eight, for example) of short duration (20-30 minutes), such

as those implemented in Mexico, El Salvador, Guatemala, and Argentina with the support of the IDB, is recommended. Increasing the quantity or duration will require more time dedication from the tutors, demanding greater availability and raising the costs of the intervention. Finally, it should be noted that the academic area in which the support is focused will also play a fundamental role in determining the appropriate duration for this type of additional support. As mentioned above, the literature recommends punctual interventions, with high intensity, but for a limited period.

In summary, on the one hand, the frequency, duration, and extent of the tutoring program can be modified according to the specific objectives and requirements of each program, the context of the educational system, the topics to be developed, and the individual lag of each student. But on the other hand, it is important that the duration be limited, focused, and with significant intensity.

5.1.2.2 Student Profile and Relationship with Tutors

1. Student Profile

In principle, all students can benefit from remote tutoring. Of course, if resources are limited, the selection of students should follow criteria that establish what is the main target population of the program. Much of these criteria must be set by the public authorities of the countries or regions where the scaling will take place.

In the cases implemented in Latin America and the Caribbean, students were approximately between 9 and 14 years old, as the programs focused on contributing to a successful transition between primary and secondary education. This choice is made with the aim of contributing to the reduction of the risk of early school dropout or desertion, which is more frequent during this transition and is closely related to the lack of basic learning and loss of interest in education (Zoido et al., 2022; Abizanda et al., 2022). The additional support can also facilitate adaptation to a new educational level that requires a higher level of independence and commitment on the part of the students, supporting both them and their families.

The selection of students is a complex issue. On the one hand, it is fundamental to avoid the stigmatization of those who participate. On the other hand, not all students need this type of support and follow-up all the time. In addition, many students from socioeconomically advantaged families may already have independent access to these resources. The evidence shows that the most effective interventions are short-term, focused, and with a certain intensity (Robinson, Kraft, Loeb, Schueler, 2021). Even so, it is a decision that belongs to public authorities since, when scaling up remote tutoring, they must be part of the educational policy. This decision must take into account in which populations this intervention can have a greater impact with a cost-effectiveness approach.

The starting point of most of the models implemented so far is the principle of learning acceleration. In this sense, priority is given to students who present some kind of educational challenge, which can be evidenced in lower learning, or by their geographical location, or in schools considered as a priority. These deficiencies are usually associated with socioeconomic vulnerability, which can lead to programs focusing on households in vulnerable situations. To avoid

It is recommended that the identification of students be done in partnership with the school, since it is there where their needs can be detected with greater precision

programs excluding students who could benefit from tutoring, it is advisable that identification be made in association with the school, as it is there where student needs can be detected more accurately and also identify those with lags in critical learning. In addition, it is the school that has more direct contact with students and their families and, therefore, can follow up when difficulties are encountered in accessing tutoring.

Even more complex is the decision on the appropriate level of selectivity, since, if not carried out properly, it can have effects contrary to those desired. This is because, if the program is offered to all students when scaled up, both the most needy students and the most capable will learn more, so inequality may remain or even increase (Gautier et al., 2018). A selective approach also helps to make the program cost-effective.

For these reasons, in the experiences implemented so far, it was recommended that the program focus on three characteristics (all of them highly related to exclusion and early school dropout):

1. Those with lower academic performance;

2. The most vulnerable in socioeconomic terms;

3. Those with fewer possibilities of receiving adequate support at home.

However, an integral program also entails positive aspects, as, by giving access to all students, it can foster a collective commitment among students. The reason is that they may perceive remote tutoring as a fundamental practice rather than a complementary offer aimed at a specific type of students (Kraft and Falken, 2021). Comprehensive programs also avoid among their beneficiaries the potential stigma of being considered less advanced than their peers. Educational systems that have been most successful with this type of intervention have also devoted a considerable amount of resources. For example, Finland has developed universal special support programs supported by the early detection of educational challenges at the school level. This program has support from psychologists, specialized health personnel, and regular group work among teachers and directors. The vast majority of students in a school, if not almost all, go through this program at one time or another in their schooling, which helps considerably to ensure that participation in it is not stigmatized (OECD, 2011).

The program must have the ability to make adjustments to select the target population, so programs in different countries will be different from each other

The optimal point between universality and focus, therefore, must be set in each scaling up, as it varies even between schools, and of course, financing. It is also relevant that the program has the capacity to make precise adjustments to select the target population. For all these reasons, large-scale remote tutoring programs in different countries or regions will be different from each other.

A final element to consider is whether the tutoring should be individual or in small groups, depending on the technology used to connect students and teachers. In principle, remote tutoring should be as individualized as possible to preserve the tutors' ability to personalize instruction. Evidence suggests a low student-to-tutor ratio, no greater than 4:1, and preferably 1:1, also depending on the technology used. The specific ratio implies a compromise between personalization and cost-effectiveness.

Maintaining the assignment of tutors throughout the program allows for strong relationships to be established with students and promotes successful completion of tutoring sessions

2. Tutor-Student Relationship.

It is essential to keep the same tutors throughout the program to establish solid relationships between them and the students, which will help motivate the active participation of the latter and favor the successful completion of the tutoring. The tutor should be consistent and supervised and trained both in relationship building and content instruction.

According to Thomas et al. (2023), the more frequent the encounters, the greater the consistency of the tutor-student relationship and, therefore, the better the tutoring outcomes. However, the optimal duration and intensity will depend on the needs of the tutoring setup in each context, as there is no single line of action in this regard. On the one hand, there is the so-called "dose effect," which suggests that the success of tutoring increases with the number of sessions, as the familiarity and trust forged in the tutor-student relationship foster greater participation that increases the effectiveness of the tutoring. However, there are strong arguments for limiting the duration of the intervention to preserve enthusiasm and interest in participating in the program.

The tutor-student relationship may vary depending on the particularities of each program. Sometimes, they may be limited to a specific semester rather than the entire academic year, while other times more enduring relationships may be maintained. The rotation of tutors and the terms and commitments agreed upon during their hiring can also impact the tutor-student relationship.

Furthermore, school breaks can affect the continuity of participation in tutoring, so choosing a short period where there is no school break of more than a few days is most advisable. Holidays that cut school activities for a week or more will impact continuous participation beyond the school break by many families and their students. In general, case experience to date recommends starting programs at the beginning of the school year whenever possible, to avoid mid-course exclusion, allow focus on the most vulnerable students to dropout, and provide an opportunity to join classes taking advantage of the reinforced and acquired knowledge during the tutoring, thus offering an immediate success experience on which to build confidence in the program in the educational community.

In summary, the type of students selected for these interventions has been mostly those who present some type of educational challenge. However, giving access to all students through a comprehensive program can encourage a collective commitment among students. This decision is based on several factors, including the financing capacity, specific to the context of each country. Additionally, the tutor-student relationship can be different between programs, according to the setup of the tutoring (frequency and intensity). Evidence has shown that the more frequent the encounters, the stronger the bond between these two actors.

5.1.2.3 Selection, Training, and Support for Tutors

1. Selection of Tutors

The greatest challenge of large-scale remote tutoring is the availability of well-trained, oriented, and consistent tutors, as this is a key factor for high-impact programs (Groom-Thomas et al. 2023). However, a well-prepared tutor does not necessarily imply positive results, as these also depend on other variables such as the delivery technology used, the pedagogical methodology developed, student motivation, and the commitment and support of their family.

The availability of tutors depends on factors such as supply and demand, training and selection criteria

The availability of tutors depends on multiple factors, among which stand out:

- The pure law of supply and demand: as the demand for tutoring grows and a larger scale is sought, the supply may not react immediately and may generate bottlenecks. The supply's reaction will then depend on actions that stimulate it;
- Training. If being a tutor is considered a profession with long-term prospects and not a one-off activity, the supply's responsiveness will depend on the time needed to train tutors;
- The selection criteria of the programs. If these are very rigorous, it is possible that the supply's responsiveness will be hampered, which entails limiting the maximum number of program tutoring sessions, although in return, their quality will improve (Kraft and Falken, 2021). This dilemma between quality and quantity runs through the entire scaling up of tutoring programs in general, and remote ones in particular.

The limitation of tutors can become a training opportunity for university students in education or related careers, or pedagogy institutes (normal schools). Tutoring can offer opportunities in these institutions for training to gain teaching experience in a simple way that does not involve investing many resources and that can help to teach students to be better prepared to face real situations in their professional practice. In this way, students can better understand the challenges and satisfactions offered by the profession, connecting with realities different from their own.

To investigate potential responses to the selection and hiring of tutors, Groom-Thomas et al. (2023) interviewed during the 2021-22 school year 90 administrators, teachers, tutors, and other staff members of different tutoring programs in the United States that addressed the recruitment of tutors in various ways. Below are the responses they found to this problem. All of them are viable solutions, although that does not prevent them from presenting challenges in certain contexts. Several of them are aligned with the strategies employed in the experiences referred to in Chapters 3 and 4 to address tutor management.

a) Teachers and Educational Assistants

The transition between classroom instruction and tutoring was seamless, especially when materials aligned with the school classroom curriculum were used

The first approach many school districts explored was using existing teachers and educational assistants as tutors. Given the pre-existing relationships between teachers and students, the transition from classroom instruction to tutoring was smooth, especially when complementary or aligned materials with the school curriculum were used. This solution was also used in Spain by the Menttores Program (see Chapter 3).

Time was the major issue in using school employees as tutors within school hours. Having the necessary number of tutors to meet demand required teachers and educational assistants to reallocate time in their schedule for tutoring. In cases where tutoring was conducted immediately before or after school, it was easier to use them, but student attendance tended to fall in those times compared to the school schedule.

The study reveals that using teachers can also favor community educational support for programs and accentuate their complementary aspect to the training given in classes. In situations of low salaries for teachers, these tutoring sessions provide an additional source of income. The main challenge is the cost, a prepared and expert tutor may not want to participate in these types of programs whose remuneration is relatively lower. However, qualitative evidence collected in the experiences implemented so far shows that the economic incentive for tutors is the least important of all. The vast majority report high levels of satisfaction with their work, as well as the perception of helping an important cause, greater than oneself, and relevant to the country's educational system (Hevia et al., 2023).

Teachers can also fulfill complementary functions such as mentors for tutors or as coordinators of them, assuming the monitoring and quality control of the services provided in the tutoring. The definition of the roles that teachers must play will depend on the conditions of each situation, such as flexibility, availability of time, etc. In any case, the fundamental role of the classroom teacher as the main reference in the education of all students and a necessary ally in the implementation of complementary solutions must be recognized.

b) Community Members

With training and continuous support, people with different profiles can be good tutors...

With training and continuous support, people with various profiles can be good tutors. Some programs in the aforementioned study discovered that hiring community members – such as parents and grandparents of students, retirees, etc. – can not only cover the need for tutors within a school but also strengthen ties with the community. When community members were paid for their work as tutors, their attendance and commitment were more consistent, confirming research that points out that volunteer tutors are not as effective as paid ones (Robinson and Loeb, 2021).

...the key is that the tutor is able to establish a close and human relationship with the student

In cases where this method has been applied, it has been found that community members usually need more support than teachers to be effective (Groom-Thomas et al., 2023). In addition, qualitative evidence collected in these experiences suggests that beyond their profile, the key is that the tutor can establish a human and close relationship with the student, transmitting greater confidence in their own ability to learn the subject.

c) University Students

In communities near higher education institutions or those that opted for virtual programs, university students were an important source of tutors. These students also played the role of role models among the tutored, as they sometimes had personal stories similar to theirs.

The motivations of students to work as tutors were varied (Groom-Thomas et al., 2023):

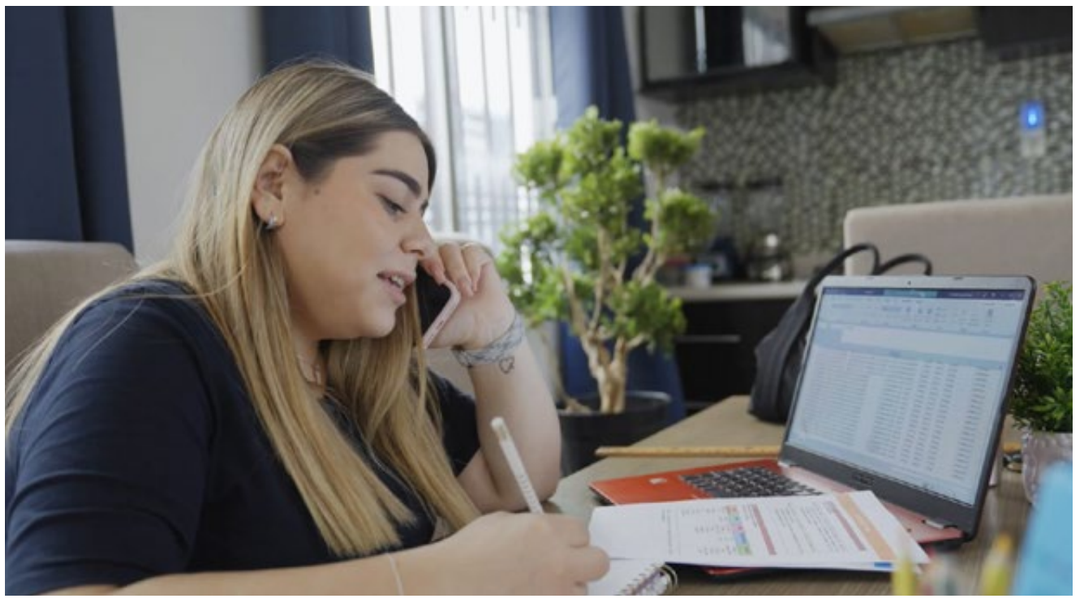
- The Federal Work-Study Program in the United States allows students to be tutors to earn income to pay for their educational expenses;
- Some university programs require community service as a graduation requirement, among which tutoring can be included;
- For some, tutoring was a part-time job;
- There are students interested in pursuing a teaching career in the future.

University tutors were also used by the TOP Program in the United States, which demonstrated that they are a cost-effective solution and also reduce the danger of a possible lack of supply of certified professionals (Carlana and La Ferrara, 2021 and 2023). Being of a closer age and sharing similar experiences with their tutored, university students can establish a stronger connection with them, leading to a more effective learning experience. In addition, volunteer tutors bring diverse perspectives and experiences that can expand students' understanding of the world around them and future educational and professional opportunities.

Undergraduates bring diverse perspectives and experiences and can establish a strong connection with their tutees, leading to a more effective learning experience

In different experiences already implemented, students who are already enrolled in teacher training programs have proven to be especially good tutors, although they have also presented some challenges, such as when their class schedules made their availability difficult. These class schedules, moreover, changed from one semester to another, thus limiting their capacity to be tutors throughout the school year. Sometimes, students gave priority to their own classes (for example, during final exams), leading them to be absent as tutors.

These problems can be reduced through various strategies, such as symbolic remuneration, the issuance of a training and participation certificate by different authorities and actors, or the incorporation of tutoring work into the academic requirements of university students' teacher preparation.



d) High School Students

Some districts employed their own high school students as tutors. This "close peers" approach provided these students with early experiences in an instructional role and gave younger tutored students successful student models to follow. However, high school students required particular training in work skills, working with younger students, and covering the curriculum. Coordination of schedules both for tutors and students also presented challenges.

e) Virtual Tutors

Hiring tutors capable of providing instruction from different parts of the country and even internationally significantly increases the number of instructors available

Hiring virtual tutors, capable of giving instruction from different parts of the country and even internationally, significantly increased the number of available instructors. While these tutors may not have links with the local community, they are capable of considerably expanding the capacity of programs when local tutors are scarce, something that frequently occurs in tight labor markets or rural areas. Tutors with knowledge in specialized content, such as high school mathematics, are also easier to find through virtual tutoring. Finally, virtual tutors can generally handle assignments in different geographical locations without the logistical problem of moving from one place to another; even for local tutors, remote options are attractive as they reduce travel times.

There is no ideal tutor profile, but rather the richness lies precisely in the variety of profiles

The information in this section suggests that there is no ideal tutor profile, but rather the richness lies in the variety of profiles as tutors can interact a lot with each other, supporting each other and somehow constituting a community of practice in which they share challenges and learning, which contributes to improving the quality of their tutoring. A more diverse group, therefore, will be better able to adapt to different challenges and provide creative solutions to problems that arise during interventions.

2 Training and Support for Tutors

▸▸ Structured Guides

As mentioned in the previous section, the basis for the training of tutors prior to the start of programs developed in different parts of the world (Chapter 3) and in Latin America (Chapter 4), are the structured tutoring guides.

These guides explain the teaching methodology and provide a kind of script for telephone calls to students. They also offer tutors information on the different teaching routes they can follow according to the initial level of each student, and a series of mathematical exercises and their corresponding explanations to send via SMS or WhatsApp. These guides are developed in line with the curricula, to ensure that the instructional content meets the standards of each situation.

▸▸ Initial Training for Tutors

During the training prior to the start of the program, three main activities are carried out with the tutors:

1. They are familiarized with the structured guides and the methodology that will be followed in the program;
2. They are encouraged to conduct the tutoring with other colleagues and discuss mutual learning;
3. They are trained in the system of tracking and monitoring the tutoring, so that they are not only responsible for conducting the sessions but also for recording the progress of each of their students week by week.

The training can be conducted in different modalities, mainly in-person, virtual, or hybrid. In the case of the pilots in Mesoamerica and Argentina, supported by the IDB, virtual courses (Massive Open Online Courses, or MOOCs) have been developed. The duration of the training depends on each context, the profile of the tutors, and the logistical facilities in terms of the schedules of those involved and the places to conduct the training.

The training and constant accompaniment of tutors by program coordinators is more important than their profile or previous training

▸▸ Support for Tutors

The training and constant support of the tutors by the program coordinators are more important than their profile or previous training (Parker, 2023).

The remote tutoring programs in Latin America and the Caribbean, supported by the IDB, had the figure of a tutor coordinator. Each coordinator was in charge of 10 to 15 tutors, whom they supported from the training throughout the development of the tutoring sessions.

It is important that in the program there are weekly group meetings of the coordinator with their tutors in which the tutoring is monitored, and pedagogical and socioemotional recommendations are given to guide the tutors with the difficulties they have. It is an ideal space for tutors to share challenges and achievements, that is, a type of learning community in which they feel in a safe environment to learn and from which they can obtain good practices for their tutoring sessions. These spaces are very valuable for the personal and professional growth of the tutors.

The profile and experience of the coordinator must be superior to that of the tutors, including training in areas of pedagogy or related fields and experience in team and process management. Although the follow-up that coordinators do of their tutors is carried out through the monitoring system defined in each implementation, it is vital to have software in which tutors can record the progress of their tutoring. In this way, this information can be monitored by the coordinators, who in turn must make the necessary decisions when alerts or risks arise about the permanence of the tutored students in the program.

All this suggests that investments in the selection, training, and support of tutors will become increasingly important as programs seek to expand their offer and reach. At the same time, as the number of tutors and, consequently, the number of students increases, this increase will make the cost per student more and more economical.

5.1.2.4 Integration and Scaling of Tutoring as Part of the Educational System

To sustain a large-scale remote tutoring program, it is essential to integrate it into the educational system and ensure that it adapts to the specific needs of schools. In this sense, integration occurs at two levels: at the macro level and micro level. The former refers to the ways in which the intervention can be assumed by the educational system, and the latter to the ways in which schools should connect with the intervention. These two levels are explained in detail below.

At the macro level:

There are three distinct types of integration that vary according to the level of responsibility assumed by the educational authorities:

1. Full integration with the educational system;

2. Articulation with external tutoring;

3. Mixed models.

The optimal choice of the integration modality with each educational system depends on the context, administrative configuration and public policy objectives

The optimal choice of integration modality with the educational system depends on contexts, public policy objectives, and the administrative configuration of educational systems. As argued before, remote tutoring programs can adapt without losing their essential principles, such as personalized learning, continuous formative assessment, and accessibility. Evidence shows successful cases in various modalities, suggesting the solidity and robustness of their impact.

1. Full integration with the educational system

The educational policy assumes the responsibility of managing, designing, and implementing a public remote tutoring program, although the degree of involvement of the administrations can vary.

In some cases, educational authorities at the national, regional (provincial or state), or local (municipal) level participate directly. In others, those same authorities – whether national or subnational – coordinate with schools but do not directly undertake the implementation, or the schools themselves are responsible for it. More specifically:

a. **Centralized public administration.** The national or subnational state provides remote tutoring to students identified by schools, is responsible for the implementation of the program, and coordinates its actions with families and schools. An example of this modality is the tutoring of the EVAE program (Virtual Space for School Support) in the city of Buenos Aires, Argentina. Through this initiative, launched in 2022, the city government provides the tutoring and is responsible for its design, implementation, and tutor training, among other activities.

b. **Delegated public administration.** The school assumes the role of executing the program. In this case, educational policy organs establish guidelines and quality criteria, but give schools the responsibility of conducting the tutoring through the allocation of a specific additional budget. In this way, schools have direct control over the implementation of the tutoring, can use their own teachers or hire external tutors, and are equipped to adapt them to the needs of their students. The adoption of the program by the schools must be voluntary, rather than imposed by the national or local government.

Full integration accepts various funding schemes. The national state can cover the total or partial cost of the program. If the level of responsibility is subnational, the corresponding authority (provincial, state, municipal) can contribute part of the funding. This partial contribution has the advantage of accentuating the incentives for its correct implementation (Kraft and Falken, 2021) and offers an opportunity to attract private funds or from international organizations.

2. Articulation with external tutoring

This modality consists of leveraging the pre-existing structure of private tutoring services, whether for-profit or non-profit, as defined by the competent public authorities for access to this market. In this approach, educational policy ensures and certifies quality levels through strategic guidelines, both in terms of instructional material and tutor management, while the implementation and provision of services are entrusted to external tutoring service providers.

In this way, educational authorities set goals and guide programs according to needs and objectives established in collaboration with schools, and the private sector executes that strategy.

As in the case of tutoring integrated with the educational system, there are two ways to implement remote tutoring:

a. Direct subcontracting of tutoring services to companies or non-profit organizations, under state, national, or subnational supervision, to ensure compliance with the objectives and goals established by public policy. Public entities collaborate closely with schools in identifying students and evaluating the results of interventions.

b. Scholarships, which can be awarded by the program implementing unit to the families of students identified by the schools as potential beneficiaries. Part of the scholarship can be conditional on a series of participation or achievement parameters in the tutoring.

In this format, the state, whether national and/or subnational, finances the program in whole or in part by subcontracting to the implementing organization, which manages the resources under public supervision.

3. Mixed models

The educational system has the possibility of articulating a comprehensive and adaptable support system at different levels, from the central government to the schools themselves. This system is based on a multimodal, multi-profile, and multichannel approach for tutors, with the aim of meeting the needs and capacities of students. Information systems could segment the student population, offering different levels of support ranging from group tutoring in schools to individual face-to-face tutoring at home, including hybrid or distance modalities.

This model would flexibly adapt to the needs and priorities of the student, the school, and the family, covering various types of tutoring, with tutors of varied profiles and on different platforms.

The government could potentially play three roles:

a. Regulator, establishing for example quality control mechanisms such as the certification of providers, and offering some type of training to those interested in being tutors;

b. Financier, either through scholarships to families or by paying implementers based on the number of students who complete the program;

c. Implementer, in some modalities, while others would be managed by non-profit organizations.

At the micro level:

The scaling of remote tutoring as part of the educational system, at the micro level, involves articulation with schools on several fronts:

- The instructional material used for tutoring must be aligned with the national curriculum so that it complements what is worked on in school.
- School principals must be involved from the preparation of the implementation so that they recognize the intervention as relevant and include teachers as an active part of the program. This implies carrying out sensitization processes with principals and teachers so that they clearly understand the objectives of the implementation and their role in the success of the intervention.
- Being able to obtain up-to-date contact information from the beneficiary families, which is only achieved if there is a close relationship with the school principals and teachers. It is key to have updated telephone numbers of the families to facilitate the sensitization and confirmation of participants in remote tutoring.
- Install the program in the school gradually, ensuring closeness between tutors and teachers, to be in a position to offer the tutoring program in different modalities (face-to-face and virtual) and in different formats (individual and group).

At the micro level, apart from articulation with schools on the previously mentioned fronts, there is a set of lessons learned for the scaling of remote tutoring, in terms of management, that have been compiled in the different implementations carried out in countries in Latin America and the Caribbean. These can be seen in detail in Box 5.1.

Box 5.1

Lessons for Scaling Up Remote Tutoring: Learnings from Pilots in Latin America and the Caribbean

The pilots supported by the IDB in Latin America and the Caribbean during 2022 allowed the identification of different stages in a remote tutoring intervention and the main lessons to consider for successful scaling. Below are the most important lessons:

In the Preparation Phase:

- Consolidate partnerships with the educational system from the beginning, to generate ownership of the intervention and strengthen commitments from different involved actors (central authorities, local authorities, and schools, including principals, teachers, and parents). It's relevant to establish partnerships with civil society organizations experienced in this field. Their wealth of experience and knowledge can significantly contribute to ensuring successful implementation.
- The material (guides) must be adapted to the context of the place where the intervention will be carried out, not only in pedagogical terms (national curriculum) but also according to the specific social, cultural, economic, and communicative conditions.
- The creation of the student database must be done from the schools, with the support of principals and teachers, to ensure that the collected data is up-to-date.
- The definition of the schedule, particularly the intervention dates, must take into account the school calendar of the students and tutors to ensure that it does not overlap with any vacation period of either party.
- The training of tutors should be close to the start of the tutoring to avoid the risk of dropout.
- The profile of the tutors is not as important as the training process provided before starting the intervention. Therefore, quality training is essential, involving pedagogical, socioemotional aspects, and management of the necessary software for monitoring and follow-up.

During Implementation:

- The sensitization process is the key to the success of a tutoring program. If the school community (principals, teachers, and parents) understands the program and recognizes its relevance for addressing learning needs, its reception will be positive, which increases the probability that the project will be successful.
- It is important that before sensitization there is an official communication in the schools about the program, to foster engagement with families.
- Uniformity of language in the content of official communications, as well as in what is shared in family sensitization, should be maintained to avoid confusion or mistrust.
- During tutoring, it is vital to provide weekly support to tutors, led by their coordinators, to offer pedagogical and socioemotional support. It is recommended that this be in a group format to share challenges and learnings and give space to the formation of a community of practice.
- Indirect monitoring of the development of tutoring with schools is necessary, i.e., having contact with teachers to receive information about the school's perceptions during the process.
- It is necessary to ensure feedback to parents or caregivers throughout the implementation, to ensure that they are connected to the learning process of their children.
- A cutoff day should be defined each week for tutors to have up-to-date information in the software on the development of tutoring with each student, and thus have current information to identify alerts and act promptly. This cutoff day should be decided by the coordinators.

Closing Activities:

- Conduct a closing feedback session with parents or caregivers.
- Provide feedback to the school, sharing the results of the evaluation carried out on the students, if there was one.
- Execute a formal closing process with the tutors to identify the main learnings and lessons of the process for future implementations.

5.1.3 What Opportunities and Challenges Can Scaling Up Bring?

When a tutoring is planned to be scaled up, the impact achieved is expected to be equal to or greater than large scale

When planning to scale up a tutoring program, it is expected that the impact achieved on a small scale will be equal to or greater than that obtained on a large scale. The problem is that the results of the pilots are not always applicable, as many variables are involved in each case.

In the **short and medium term**, scaling up tutoring can bring the following consequences in terms of equilibrium effects and feedback:

1. **Increase in demand (equilibrium effect).** When scaling up the program, the demand for resources and associated services grows, such as the number of tutors and the capacity to monitor tutoring. Therefore, there is a higher probability of congestion in the implementation (Gautier et al., 2018).

   The increase in demand for tutors implies maintaining active recruitment sources and having call strategies that allow their number to be sufficient to serve the students. This requires institutional coordination that generates effective communication mechanisms between different actors.

   The increase in the capacity for monitoring and follow-up requires a system that:

   - Allows tutors to report progress with each student in tutoring;
   - Enables tutor coordinators to monitor the implementation in real-time.

This not only depends on the system available but also on the alignment, coordination, and communication that the tutoring program has with the authorities and educational centers. In other words, it is necessary that the organization centralizing the implementation coordinates the other involved organizations. Thus, maintaining the capacity to manage tutors and constantly monitor and follow up on the development of the tutoring.

Centralizing the implementation allows maintaining the ability to both manage the tutors and to monitor and follow up on an ongoing basis

An example of institutional and multisectoral articulation can be seen in Box 5.2.

Information Box 5.2[81]

Content adapted from the brief by Gironza (2023). Massifying Impact: Collaboration Schemes for the End of Learning Poverty.

Multisectoral Articulation in Practice: Global Classroom Program in Colombia and Collaboration for Large-Scale Social Change

> *"The challenge is to mobilize and build a shared vision that involves the entire community and that, especially, challenges the different sectors to learn to work together, in an articulated way and integrating capacities, fully aware of the urgency of addressing Learning Poverty." (Gironza, 2023)*

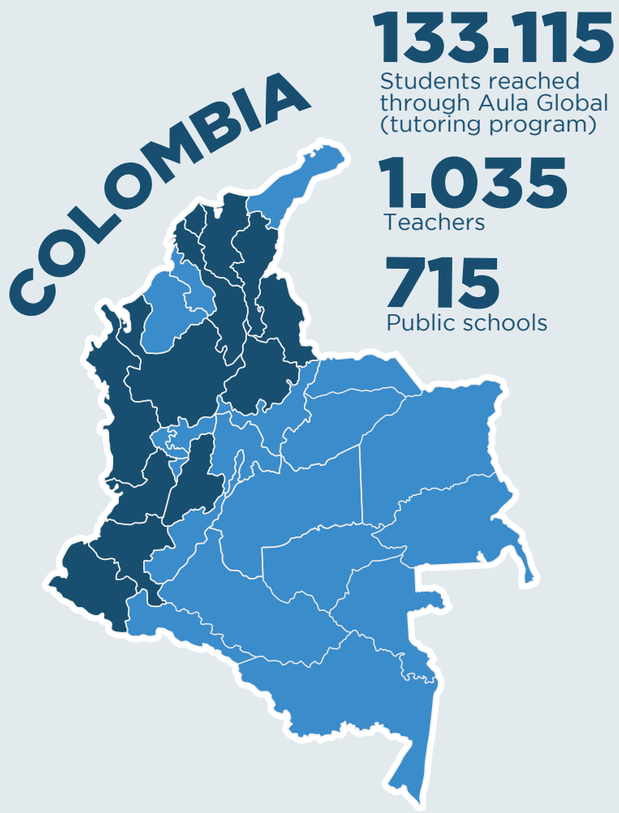
The experience of the Global Classroom Program, by the Carvajal Foundation in Colombia, is an example that the only way to achieve large-scale impact against a social catastrophe such as learning poverty is by changing the way of working in and among the organizations and institutions that form the education ecosystem.

The Carvajal Foundation is a non-profit organization with more than 50 years of existence, which has taken on, within its mission in education, the challenge of reducing basic learning gaps in Colombia. In 2017, it designed the Global Classroom program, which was born as a response to the phenomenon of student backlog generated by factors associated with the student, teacher, family, and educational institution.

The objective of Global Classroom is to reduce gaps in basic learning through the strengthening of language, mathematics, and socioemotional skills competencies of students from second to fifth grade of primary school, and ninth grade of secondary school in public schools. It also seeks to reduce early school dropout (desertion), repetition, and academic lag. The results so far have shown that students who have benefited from the entire process have improved

their performance by 0.38 standard deviations (Barrera, F., and Lagos, F., 2018), and that the number of students at low reading levels at the end of the process has been reduced by approximately 25%. Global Classroom has reached more than 133,000 students in 715 public schools (Figure 5.3).

Figure 5.3 Scope of the Aula Global (Global Classroom) program



Source: *image taken from Gironza, 2023.*

Scaling Solutions through Partnerships

One of the keys to the program's success has been having the support of national and international allies with experience in education and interest in receiving the program's methodology and replicating it in other territories. Thus, the Carvajal Foundation has transferred the Global Classroom methodology to six organizations in Colombia, with which the program has been developed simultaneously in the six regions of the country with the highest number of vulnerable students and the highest proportion of enrolled migrants, two groups that require actions to accelerate their learning.

This collaboration reflects that large-scale social change requires cross-sector coordination. This is something that is already indicated in an article from the Stanford Social Innovation Review, which, after analyzing one of the most important current collective impact references in education, Strive Together, concludes that collective impact occurs when actors from different sectors commit to a common agenda to solve a specific social or environmental problem.

The basis of this thesis is that no organization alone has the capacity to solve the most complex problems. This implies a significant cultural change for the social sector, which still focuses on the isolated intervention of individual organizations (Kania and Kramer, 2011).

In summary, scalability requires an intervention that has three characteristics:

1. Respond to specific social needs;
2. Be guided by a theory of change that allows flexibility in its implementation, articulating its scalability with other actors and policies;
3. Be based on evidence to evaluate its functioning, identify improvements, and ensure its cost-effectiveness.

These three conditions are interrelated. For example, the general condition of cost-effectiveness of scaling up complements the one that requires its implementation to be based on solid evidence and that its benefits are established in a way that explicitly expresses that scaling up will be organized through a theory of change. Scaling up remote tutoring programs implies meeting these conditions and, in addition, responding to the specific challenges identified in previous smaller-scale experiences.

2. **Changes in the Quality of the Intervention (Feedback Effect).** As the demand for tutoring grows, so does the pressure to maintain or improve the quality of the program. And the quality largely depends on the tutors, for three reasons:

   1. Their training;

   2. The ongoing support provided to them;

   3. Monitoring and follow-up of the tutoring sessions.

   If, when scaling up, the impact achieved in the pilot test is maintained or exceeded, the improvement in students' academic performance can feed back into the program itself, as it generates more motivation and confidence in the students, which in turn can further improve their academic performance. In this way, the results influence the intervention process itself and generate additional changes in the system.

   This feedback effect is important, as it helps to combat the danger of scaling giving the impression of a lack of results. This is because pilots generate temporary effects related to a transient increase in morale due to the provision of momentary resources, which can influence the improvement of student performance. These effects are smaller in large-scale interventions over a long period (Duflo, 2004).

In the **long term**, scaling up tutoring can have the following consequence in terms of equilibrium effects:

1. **Impact on the labor market.** By contributing to the improvement of learning of the most lagging students, tutoring can:

   - Ensure that all tutored students acquire basic fundamentals in key subjects such as mathematics or literacy,
   - Increase the number of graduates;
   - Reduce the risk of premature school dropout;
   - Ensure that graduating cohorts are better equipped to continue their education or join the labor market successfully.

   This impacts the supply and demand of different professions and occupations, which ultimately generates a higher educational return as there are more educated and trained people receiving better salaries. This dynamic is consistent with what is discussed in the first chapter of this monograph about the effect that these programs can have not only to address the region's learning crisis but also to reduce inequalities and, in general, improve the productivity of the economy by strengthening the skills of the workforce.

All the benefits and effects of a remote tutoring program must be contemplated from the design of the intervention, where a short, medium, and long-term plan is defined. This, ultimately and as will be explained in the following section, is having a well-defined theory of change where the long-term change objectives are clear and how they will be maintained over time (see Box 5.3 to identify the theory of change of a remote tutoring program).

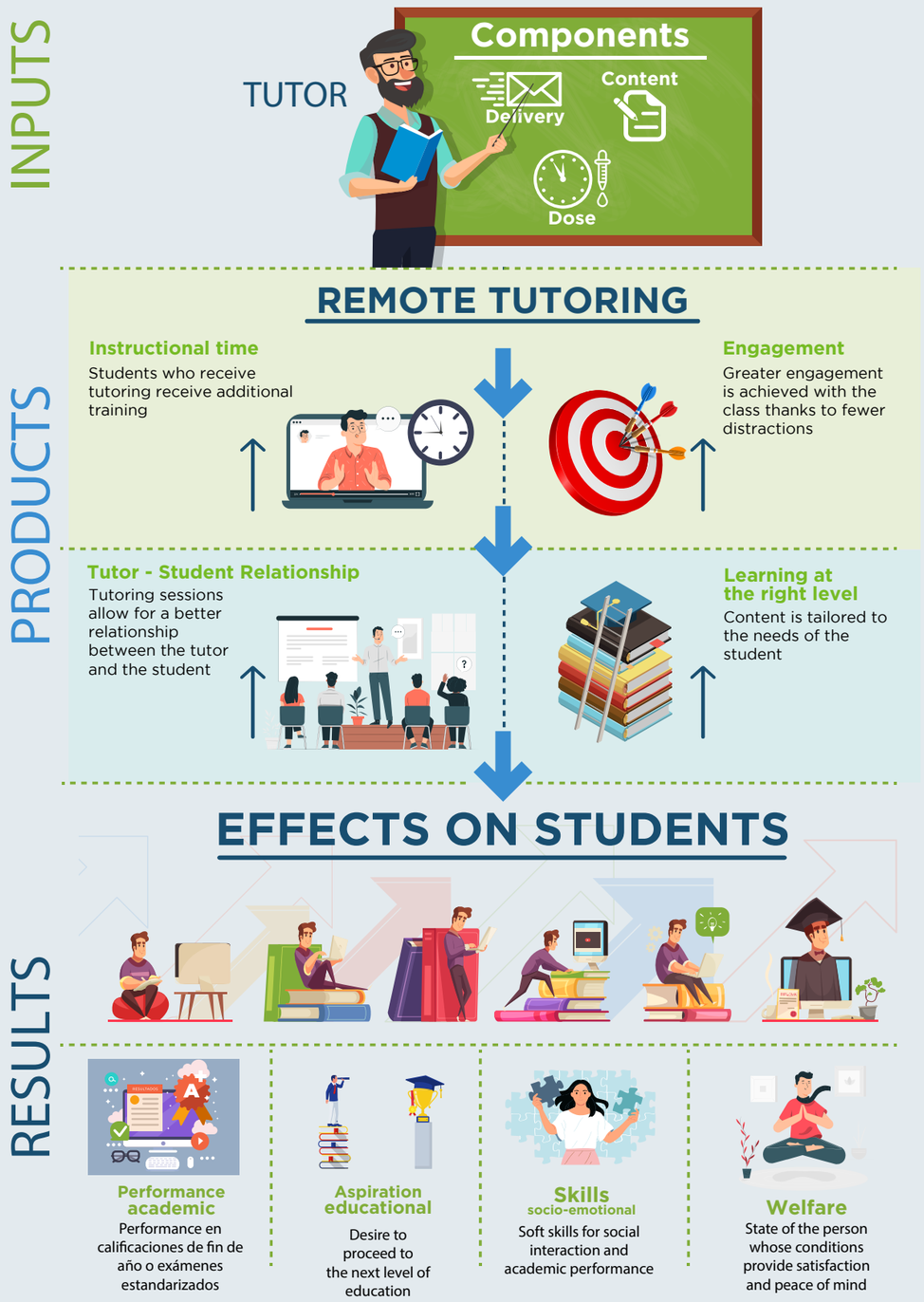
Information Box 5.3

Theory of Change Applied to Remote Tutoring

Figure 5.3 shows the components needed to implement remote tutoring, understood as:

- Inputs (tutor, content, dosage (frequency and duration));
- Outputs, i.e., their impact mechanisms (tutor-student relationship, teaching at the right level, instructional time, engagement);
- Outcomes, which are the effects expected to be achieved in the students (academic performance, educational aspiration, socioemotional skills, and well-being).

Figure 5.4 Theory of change of remote tutoring



Source: *own elaboration based on Nickow et al., 2020.*

Module 5.a
What Does Scaling Educational Interventions Entail?

Scaling an educational intervention means expanding the reach and effect of a successful program to a wider population or geographical area, while preserving its impact. While scaling an educational intervention means increasing the number of beneficiaries, this is a necessary but not sufficient condition to fully understand the process. It is also necessary to set goals regarding sustainability over time and the level of depth (for example, in the variety and complexity of content) (Coburn, 2003; Carrioza, 2005; and Mourshed, 2022).

There are two effects that occur when scaling is successful and its achievements are maintained in the long term:

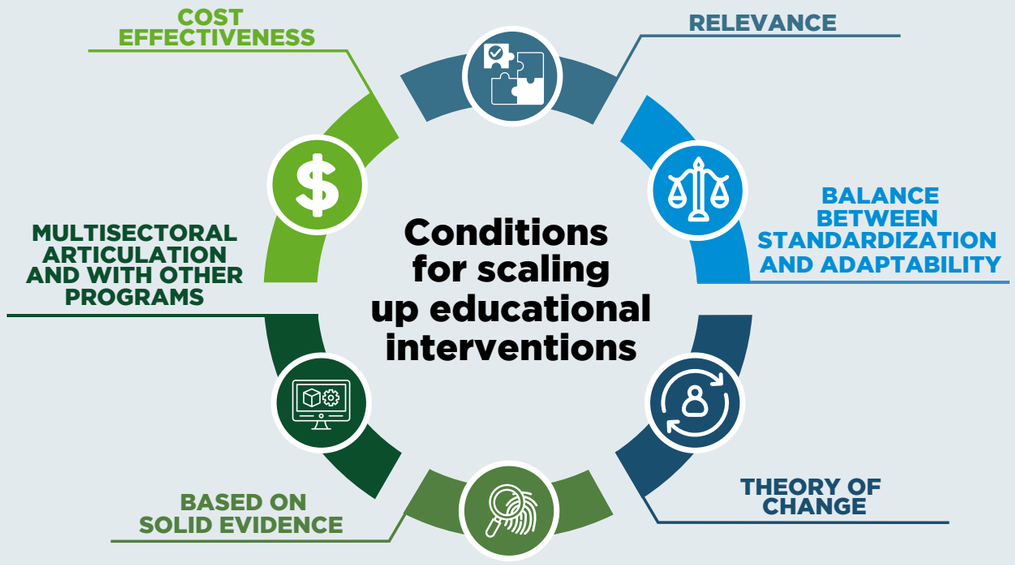
- **Cultural change.** To consolidate scaling and maintain improvements in the long term, it is crucial that there is deep appropriation and acceptance of the process by the beneficiary community. This implies a cultural change that must overcome inertia and resistance to change, which are central obstacles in the institutional sphere (Elmore, 1996, cited in Rincón-Gallardo, 2016, p.421). Therefore, the organization responsible for scaling must anticipate resistance, ensuring from the outset social and institutional support for the plan (Banerjee et al., 2017).

In order to consolidate scaling up and sustain improvements in the long term, it is crucial that there is a deep ownership and acceptance of the process by the beneficiary community

- **Transfer of leadership in change management.** Scaling requires the effective transfer to key actors of the knowledge and authority necessary to implement the intervention. This transfer involves disseminating among these groups the norms, beliefs, and principles of the intervention to be scaled, a process known as “the change in the owner of the reform” (Coburn, 2003).

According to Parker (2023), for an intervention originally conceived for a specific community in a limited territory to reach a larger scale, it must meet the conditions shown in Figure 5.5 and subsequently analyzed.

Figure 5.5 Conditions for scaling up educational interventions



Source: *own elaboration based on Parker, 2023.*

The relevance of the initiative is a prerequisite for it to be well received by the community in which it is implemented

1. **Relevance:** means that the intervention responds to a real need perceived by the population, to the point of generating enough pressure to overcome the force of inertia (Carrioza, 2005). The relevance of the initiative is an indispensable condition for it to be well received by the community in which it is implemented.

2. **Balance between standardization and adaptability:** in practice, it is necessary to have mechanisms for adaptation to address the singularities of each community or region, although without neglecting the fact that the standardization of some processes – understood as the establishment of common rules to achieve uniformity and facilitate comparison between implementations – remains necessary to replicate the experience in new scenarios.

3. **Theory of change:** it is necessary for an intervention intended to scale to have from the beginning a vision of the long-term change objective sought with it, as well as a theory that explains how this change will be achieved and maintained over time (Ellis-Thompson et al., 2021). This theory of change should not be generic or vague, but clear and specific (see example in Table 5.1). According to Parker (2023),[82] the absence of a theory of change not only makes it impossible to know the precise details of the implementation but also makes it difficult – if not impossible – to evaluate the effectiveness of a program. In practice, without a clear theory of change, a large-scale tutoring initiative can be understood differently by each implementer.

In practice, without a clear theory of change, a large-scale tutoring initiative may be understood differently by each implementer

Table 5.1. Distinctions between Unspecified and Well-Specified Theories of Change for Literacy

	Imprecise Theory of Change	Clear and Specific Theory of Change
Tutoring Approach	Reading	Phonics and fluency
Target Participants	Boys and girls	Early primary education students
Training Approach	Tips on how to interact with children	How to deliver systematic and explicit phonics instruction
Coaching	Call center for tutor questions	Live, monthly observations
Data	Existing (e.G., Collected at school)	Reliable and valid assessments for fundamental reading skills
Evaluation	Parent satisfaction surveys	Improvement in phonics and fluency skills measured according to essential benchmarks

Source: *Table taken from Parker's brief (2023).*

4. **Evidence-Based Foundation:** A solid evidence base provides detailed information during program execution about its processes and expected results. Data are not only necessary for accountability but also lend legitimacy to the program and facilitate its acceptance by the involved actors.

   To obtain this data, it is necessary to:

   - Conduct a pilot test to refine the intervention and the evaluation model.
   - Design a monitoring strategy adjusted to the established theory of change.

- Carry out a concurrent evaluation to correct deviations and make the necessary adjustments to achieve the objectives.

- Perform an outcome or impact evaluation that: (1) provides solid evidence to support and promote the scaling process; (2) validates or allows adjusting the applied theory of change.

5. **Multisector Articulation and with Other Programs:** When scaling programs, it is common for actors whose objectives are not aligned to be involved, making it fundamental to promote multisectoral articulation in decision-making. This articulation has to encompass the private sector, the public sector, civil society (e.g., universities, NGOs, think tanks), and, whenever pertinent, the recipient community (Carrioza, 2005). Regarding the public sector, it is not only important that the intervention complements the policies dictated by national or local authorities and what is already being worked on in educational institutions, but it is also necessary to ensure that what is going to be implemented does not go against the interests of teachers or the workers' organizations in the educational sector that defend collective interests, and that they perceive the intervention as a support to the work they are advancing.

   It is not enough to articulate different organizations around a program; it is also necessary to articulate the different programs with each other. This avoids redundancies (when two or more programs with similar objectives act on the same group) and congestion (overload of existing resources when they must support several programs). Coordination is key to avoiding exhausting the management capacities of the actors, facilitating possible synergies, and reducing costs.

6. **Cost-Effectiveness:** Low cost per student allows for broader implementation, deepening its impact and ensuring its sustainability. Apart from this obvious reason, there are four other reasons that force the scaling of educational programs to be cost-effective:

   - Better use of resources. Efficient allocation of resources, maximizing impact without needing to increase the budget.

   - Sustainability. Efficient use of resources allows programs to be maintained without overburdening the educational system or depending on temporary, uncertain, or unstable funding sources.

   - Equity. By optimizing the allocation of resources, programs can expand to reach more students and broader groups of them, especially those from disadvantaged environments with limited access to quality education or vulnerable to unexpected changes like a natural disaster or a health crisis.

   - Responsibility. Responsible use of resources allows for the monitoring and evaluation of the costs and outcomes of programs, ensuring that the intended objectives are achieved effectively and transparently.

Low cost per pupil makes it possible to reach more students, especially those from disadvantaged backgrounds with limited access to quality education

Module 5.b

Investing in Tutoring: How Much Could Scaling up Tutoring in Latin America and the Caribbean Cost?

Why Invest?

According to Goal 4.1 of the Sustainable Development Goals (SDGs), "every student should acquire essential minimum skills and knowledge in mathematics, science, and reading." However, as mentioned in Chapter 1, a large proportion of students in Latin America and the Caribbean do not meet this criterion. In mathematics, for example, on average only 35% achieve foundational knowledge. In countries like the Dominican Republic and Paraguay, this percentage is less than 10% (Table 5.2).

As we argued in Chapters 3 and 4, tutoring programs can help establish a solid foundation of learning in short cycles of time effectively, especially in the most lagging students.

Table 5.2 Percentage of Children Achieving Foundational Learning in Mathematics in Secondary School

		Percentage of Children Achieving Foundational Learning in Mathematics
PISA 2018	Uruguay	49%
	Chile	48%
	Mexico	44%
	Costa Rica	40%
	Peru	40%
	Colombia	35%
	Brazil	32%
	Argentina	31%
	Panama	19%
	Dominican Republic	9%
	LAC Average	**35%**
PISA-D *(students)*	Ecuador	29%
	Honduras	15%
	Guatemala	11%
	Paraguay	8%
	PISA-D Average (students)	**16%**
PISA-D *(out-of-school youth)*	Honduras	3%
	Panamá	2%
	Guatemala	0%
	Paraguay	0%
	PISA-D (out-of-school youth)	**1%**

Source: *Own elaboration based on PISA 2018 and PISA-D reports.*
Note: *Foundational learning, or minimum learning used, corresponds to internationally agreed upon levels to inform SDG target 4.1.1. of the United Nations (UNESCO-UIS, 2017, 2018a). These were calculated based on the percentage of students reaching level 2 or higher in the international assessments ERCE 2019, PISA 2018, and PISA-D.*

Estimating the Cost of a Large-Scale Tutoring Program

To visualize the scope of the tutoring proposal in the region, we have estimated the costs associated with a large-scale tutoring program. This calculation is based on the tutoring model carried out in pilot projects in 2022 in El Salvador, Mexico, Guatemala, and Argentina (see Chapter 4).

These estimates, in addition to reflecting the direct cost per student, incorporate additional assumptions to consider potential cost variations due to the necessary scaling.

How Many Children Should We Reach in Latin America and the Caribbean?

The first step is to determine the number of students who would benefit from scaling up remote tutoring. The pilot projects focused on students aged 9 to 14 years, an age range that covers the crucial transition from primary to secondary school, and sought to teach basic mathematical operations (addition, subtraction, multiplication, and division), i.e., content that is usually covered by the third grade of primary school.

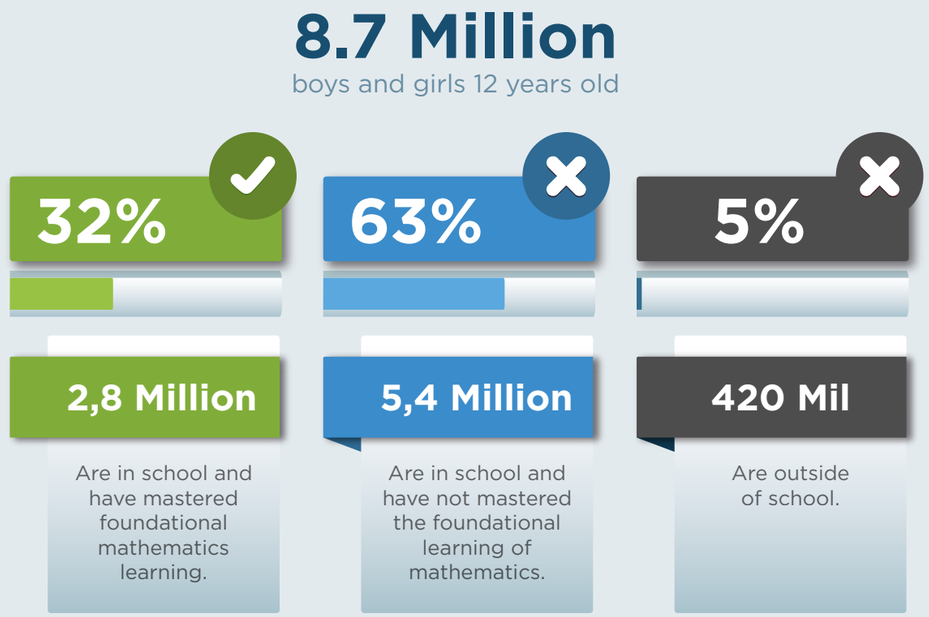
For this hypothetical scaling exercise, we focus on 12-year-old students, who generally attend lower secondary school. We assume that one cycle of tutoring is sufficient to impart fundamental mathematical knowledge and that this will last over time. Thus, if each year a new cohort receives tutoring, over time all students would possess the basic skills required.

Approximately 5.9 million twelve-year-olds would be eligible for tutoring in the countries of the region participating in the PISA and PISA-D tests

To estimate the number of potentially eligible boys and girls for tutoring, we consider those who are in school but have not achieved foundational learning in mathematics and also those who are not in school.[83]

In the 14 countries of the region that participate in the PISA 2018 and PISA-D tests, there are approximately 8.7 million 12-year-old children.[84] Of these, 5.9 million would be eligible to receive tutoring, according to this criterion (Figure 5.6).

Figure 5.6 Educational attainment of 12-year-old boys and girls in Latin America and the Caribbean



Source: *Authors' own elaboration using Household Survey data from 2019 to 2022 from 14 countries in Latin America and the Caribbean.*

Note: *The foundational learnings, or minimum learnings used correspond to those internationally agreed upon to inform objective 4.1.1. of the United Nations Sustainable Development Goals (UNESCO-UIS, 2017, 2018a). These were calculated from the percentage of students reaching level 2 or higher on the ERCE 2019, PISA 2018 and PISA-D international assessments. Figures approximated to one decimal place. Totals may differ slightly due to rounding.*[85]

Which Categories Do We Consider Within the Costs?

Once we know the number of potential beneficiaries,[86] we must establish the cost per student. For this, we assume a governance structure similar to that implemented in the pilots presented in Chapter 4, although with general variations of the main cost parameters to reflect the changes associated with increasing the scale of the programs. This model includes:

- Eight weeks of tutoring.
- One coordinator assigned for every 10 tutors to carry out personalized monitoring of them.
- Tutors with 15 students in charge, although developing the tutoring individually, that is, one-on-one.

Within the cost structure of the program, we include the following general categories:

- Financial support for tutors. The total expenditure will depend on the number of tutored and tutors, and the stipend assigned to the latter.
- Salary of coordinators. The expenditure in this area is also linked to the size of the program. A coordinator is suggested for every 10 to 15 tutors, although this ratio can change according to implementation requirements and tutor qualifications. More experienced coordinators could handle groups of up to 26 tutors.
- Training for tutors. The training in the Mesoamerican pilots was carried out virtually, both synchronously and asynchronously. However, in a scaling scenario, entirely asynchronous virtual trainings are contemplated, so once the platform for them is set up, the cost for its maintenance and adaptation must be considered.
- Communication. Phone top-ups and sending text messages from tutors to students.[87]
- Database management. Cost that may increase in scaling depending on the follow-up format, the platform used, and personnel involved.
- Management and coordination expenses. These represent 30% of the operational cost and include management expenses and payment to the implementing organization. If implemented and managed by the government, they could be government employee salaries and allocate a percentage to the project manager.

Costing Exercise for Scaling: The Mexican Case

Considering the governance structure of the pilots implemented in Latin America and the Caribbean, we include a costing exercise for Mexico, with a scenario in which a round of tutoring would be carried out on a large scale, with the characteristics of the cases supported by the IDB (eight 20-minute tutoring sessions over eight weeks, by phone). We selected Mexico as a reference case due to the successful implementation of remote tutoring there, which in turn allowed us to know the cost structure of remote tutoring precisely.

For the scaling exercise of the program, we generally consider five steps (Figure 5.7):

1. Calculation of eligible children: Of the 2.2 million 12-year-old children in Mexico, 59%, i.e., 1.3 million, are potentially eligible for tutoring.

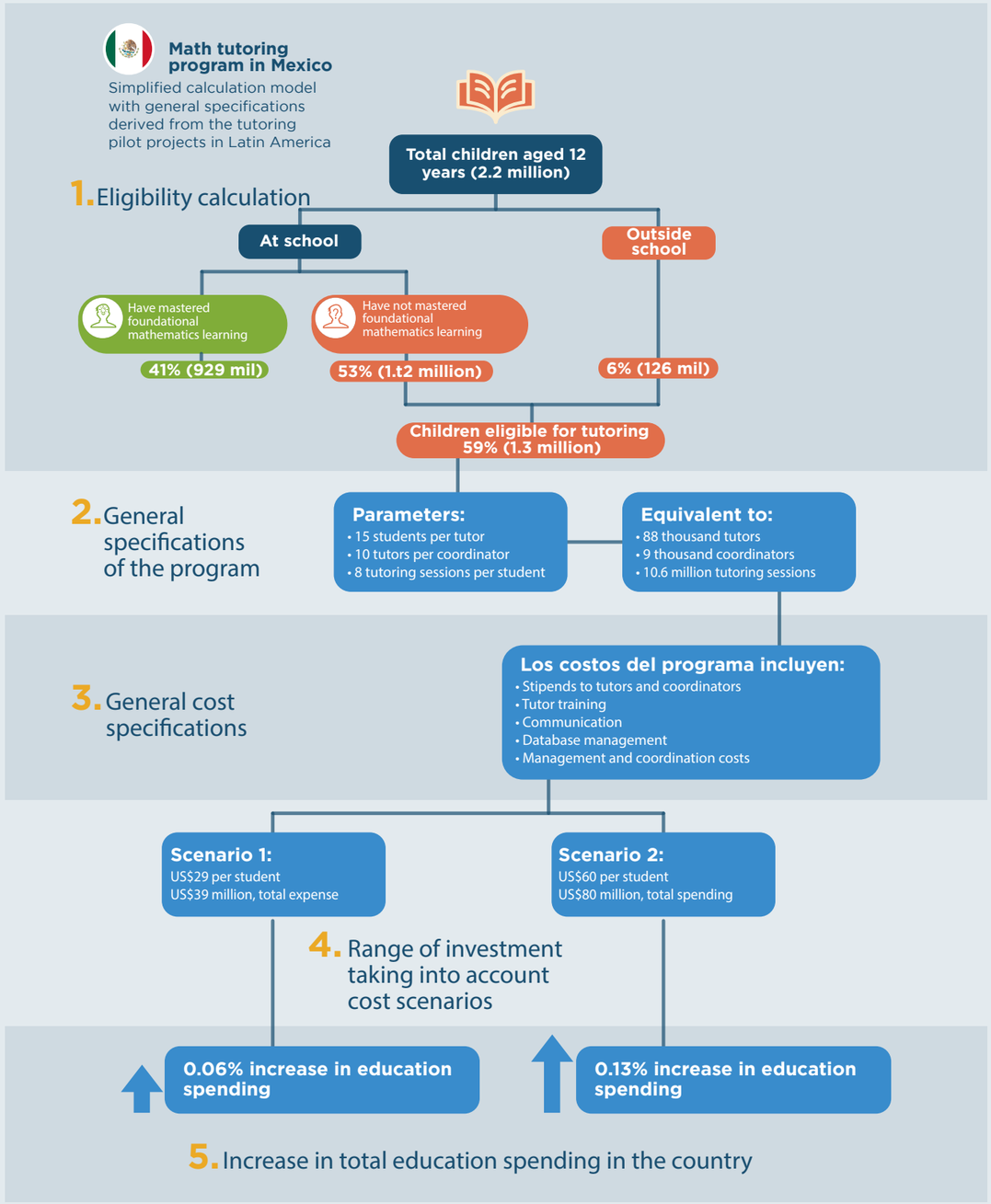
2. General specifications of the program: We determine how many tutors and coordinators are needed to attend to these students.

3. General specifications of the costing: We estimate the costs of the program. These costs can be fixed or variable and recurrent or not, depending on the installed capacity and resources of the implementing entity, whether it be the government, NGOs, or the private sector.

4. Range of investment: We establish a range of costs considering different scenarios (scenarios 1 and 2). These vary according to elements such as stipends, training, monitoring, etc.

5. Increase in education expenditure: We compare the range of costs of the tutoring program with what the country already invests per student in education. It is important to remember that this program complements, and does not replace, existing education.

Figure 5.6 12 year olds eligible for tutoring in Mexico based on household survey data and country learning outcomes



Source: *own elaboration based on data from the National Survey of Occupation and Employment of Mexico-ENOE (2019, 2020, 2021, 2022).*
Note: *The figures for 'minimum learning achievement' were determined using the proportion of students who reached Level 2 or higher in PISA 2018. Figures rounded to one decimal place. Due to rounding, totals may differ slightly.*

Considering the estimated number of students potentially eligible for tutoring (1.3 million) in Mexico and the previously mentioned tutor-student ratios, we estimate that more than 88,000 tutors would be required to attend to that number of students. Now, is that a feasible number?

To answer this question, we analyzed the number of higher education students in Mexico, focusing on those in Bachelor's and Higher Technical degrees, in the field of Education, within the public education system. We found that in the 2021-2022 cycle, 244,263 students were enrolled in this group (Table 5.3).

Assuming the implementation of curricular incentives and accredited experience (see chapters 3 and 5), it is reasonable to assume that at least one-third of the students would apply to participate in the tutoring program. If so, the necessary number of tutors to offer tutoring to potentially eligible students would be reached. Even if one-third of the higher education students in the field of Education did not apply, we could also consider tutors from other fields for math tutoring, such as students in careers related to exact sciences or engineering. Another option would be to open the program to the participation of students from private universities. This allows us to conclude that there is a critical mass to get university student tutors with remuneration similar to those who participated in the previous implementation.

Table 5.3 Students Enrolled in Mexico, in the Field of Education, in University and Technological Bachelor's Degrees, Bachelor's in Normal Education and Higher Technical Degree, 2021-22 Cycle

Sector	Students Enrolled
Public	244,263
Private	130,948
Total	375,211

Source: *Higher Education Statistical Yearbooks (ANUIES).*

Additionally, considering the costs of communication, training, management, and others, the estimated cost per student for tutoring in Mexico would be US$29. Below we break down the cost structure in Table 5.4:

Table 5.4 Cost Structure for Potential Scaling of Remote Tutoring in Mexico

Support Item	Percentage
Financial support to tutors	50%
Management and coordination	25%
Communication	14%
Coordinator salary	4%
Database management	4%
Tutor training	3%

Source: *own elaboration based on cases of remote tutoring implemented by the IDB in Latin America.*

Due to economies of scale, the unit cost decreases as the number of tutors increases...

Due to the economies of scale generated by fixed costs, the cost per tutored would decrease as the number of them increased, until reaching a point where it would no longer fall. According to our calculations, the cost would stabilize at about US$29 per student (US$23 for variable costs and US$6 for fixed costs associated with management) after surpassing 10,000 students.

However, diseconomies of scope and additional coordination and management costs associated with substantially higher scale may also be encountered

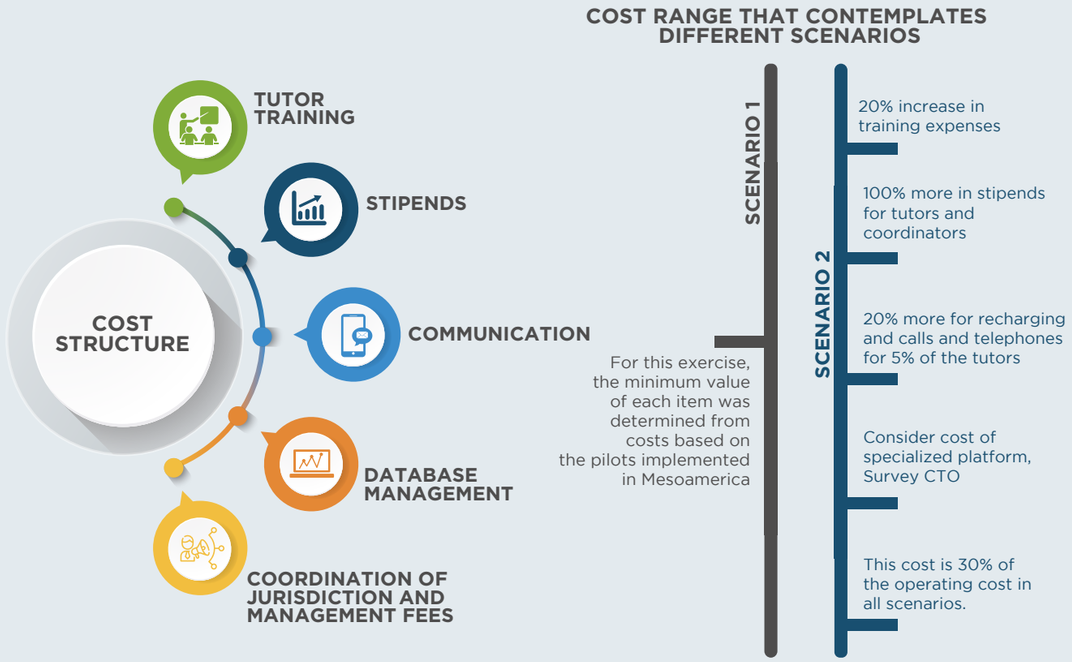
In practice, however, a national tutoring program could encounter limitations that lead to diseconomies of scope and additional coordination and management costs associated with a substantially higher scale. For example, in the case of Mexico, we have argued that there does not seem to be a limiting supply constraint since with a percentage of higher education students in Education, the needs for tutors could be covered. If this were not the case, it would be necessary to increase the remuneration of tutors to attract and incentivize them to participate in the Program.

We then consider a range of costs based on variations in general parameters. We represent these variations in two scenarios. Scenario 1 (at US$29 per student) is based on the costs of the pilots conducted in Mesoamerica. In contrast, scenario 2, which contemplates a cost of US$60 per student, assumes higher specialization expenses, such as:

- An increase in stipends to tutors and in the salary to coordinators,
- More expensive tutor training,
- Additional expenses in text messages and calls,
- An allocation to provide cell phones to a small percentage of tutors,
- The acquisition of a license for a specialized program in database management,
- A face-to-face sensitization visit to schools (Figure 5.8).

With these two scenarios, we obtain a range of costs from US$29 to US$60 per student in a remote tutoring program, designed to reach all the lagging youth of a specific school year cohort.

Figure 5.8 Program cost structure



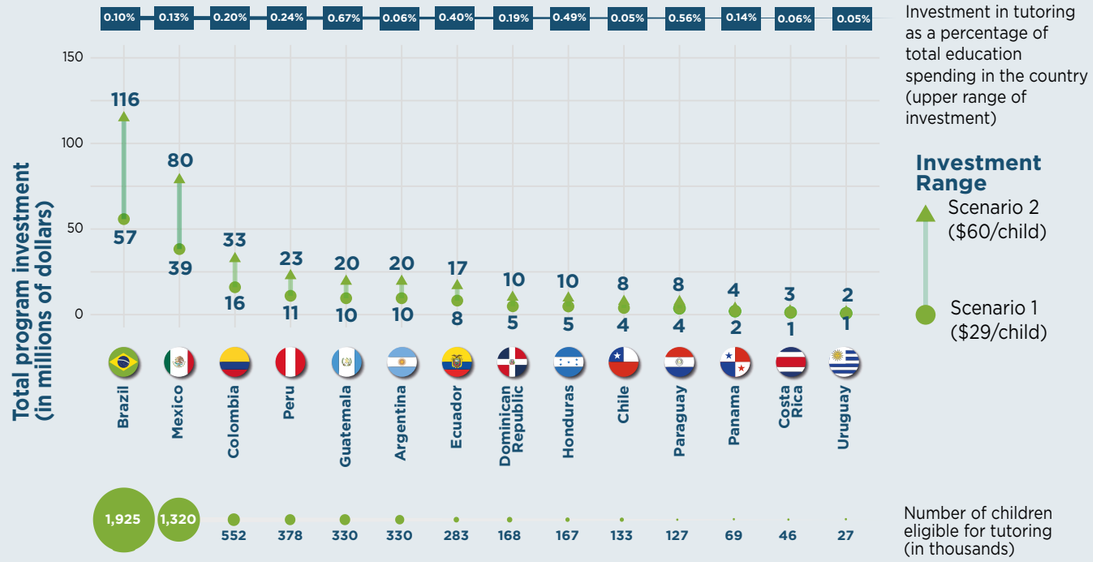
Source: *own elaboration.*
Note: *Stipends include financial support for tutors and salaries of coordinators.*

Additional Expenditure of Countries in the Education Budget in a Scaling Scenario

To estimate the additional expenditure necessary to offer tutoring to potentially eligible lagging students of 12 years old, we multiplied the number of students by the cost per student in the two proposed scenarios. We compared these figures with the total annual educational expenditure of the Mexican government, after converting it into the current local currency of the year 2022.[88] We found that providing tutoring to eligible students of the cohort would result in an increase of between 0.02% and 0.6% in total educational expenditure.

Subsequently, we extrapolated this estimate to the other 13 countries of Latin America and the Caribbean included in the analysis. With a cost per student ranging between US$29 and US$60, and comparing it with the total educational expenditure of each country (after converting to their local currency), we determined that a joint investment of between US$172 and US$353 million would be necessary to serve all 12-year-old boys and girls who would be eligible for tutoring. This would mean an increase of less than 1% in the total educational expenditure in the 14 countries considered (see Figure 5.1). It is relevant to highlight that this proposed increase is lower than the 2% increase in annual educational costs necessary to implement other highly effective and low-cost educational policies, such as non-monetary incentives for students and structured lesson plans (Busso et al., 2017).

Figure 5.1 Projected Expenditures for the Implementation of Tutoring by Country



Source: *own elaboration based on data from Household Surveys of each country, PISA 2018 information, and World Bank information.*
Note: *The graph represents the total estimated expenditure to implement the tutoring program in the 12-year-old cohort for each country. It shows the expenditure in the projected scenarios 1 and 2, based on a cost of 29 USD per student and 60 USD per student, respectively.*

Conclusion

Designing and implementing large-scale tutoring programs raises a fundamental question: as they grow and reach a larger population, how can their effectiveness be maintained?

Constructing a menu of ideal solutions involves understanding the context in which the intervention will be implemented. It is necessary to have a deep knowledge of the characteristics of the target population, their problems and needs, and to be able to guarantee the necessary resources to address these challenges. The scalability of the intervention presents flexible aspects that encompass different elements, such as modality, curricular area, quantity and duration of the tutoring, communication channels, selection, training and support of tutors, and the degree of integration with the educational system.

All these aspects are defined during a planning phase in collaboration with the involved actors, in order to configure the program according to the priorities of the public agenda, available resources, and the most pressing needs of the target population. Articulation with the educational system is also fundamental to ensure the sustainability of the program.

Adaptation of tutoring programs must be done carefully so as not to compromise the nature, quality and effectiveness of the intervention

However, it is crucial that flexibility is applied carefully so as not to compromise the nature, quality, and effectiveness of the intervention. It is clear that, when scaling up remote tutoring programs, it is necessary to ensure that the intervention aims to accelerate learning, personalize teaching, conduct continuous student assessments to know their level and progress, and use communication channels or implementation methods that are accessible to all population groups, especially those most vulnerable in socioeconomic and learning terms. Equally important is to take into account the fundamental aspects of any educational intervention: having a theory of change, being relevant, implementing what has been proven to work, establishing articulation with other sectors, programs and actors, and maintaining the intervention cost-effective in terms of cost and effectiveness.

Finally, it is important that large-scale remote tutoring programs are compatible with the financial limitations of the states of Latin America and the Caribbean. Our cost analysis offers a wide range of investment corresponding to a small

The additional budgetary effort to accelerate the learning of students lagging behind in the transition year to secondary school does not reach 2% in most of the countries of the region

percentage of current educational budgets. The additional budgetary effort to accelerate the learning of lagging students in the year of transition to secondary school does not reach 2% in most countries of the region. As discussed in Chapters 3 and 4, the educational benefits of such an effort are substantial.

A fundamental characteristic of these programs is their robustness. Although the implementations discussed in Chapters 3 and 4 differ in contexts, designs, pedagogical approaches, and types of tutors, in all their evaluations it was verified that they had a positive effect on performance and, in cases where there was data, also on other aspects of the learning process. If their effectiveness in accelerating learning is combined with their robustness and relatively low cost, remote tutoring becomes highly attractive for scaling up and becoming a fundamental tool of the educational policy of the countries of Latin America and the Caribbean.

Remote tutoring is a high-impact, low-cost tool to address the structural deficiencies that characterize learning processes in Latin America and the Caribbean

In summary, this work concludes that remote tutoring is a high-impact and relatively low-cost tool to address the structural shortcomings that characterize learning processes in Latin America and the Caribbean. Its widespread use can not only improve the educational level of students but also reduce educational inequalities, as its implementation allows focusing on the learning of those lagging students, who often come from vulnerable households and disadvantaged socioeconomic contexts.

Testimonies

Paraguay

"At first, they were shy and timid, but as the weeks went by, confidence and communication were strengthened. I had a student who sang while doing the exercises, and another student wrote me a letter thanking me for what she was learning, saying that even though we didn't see each other, she already cared for me a lot."
Tutor in Paraguay, on her experience in the program.

Ecuador

"The student has made incredible progress in these sessions, being able to advance and review many gaps in the content."
Tutor in Ecuador, observation about one of his students.

City of Buenos Aires (CABA), Argentina

"Focusing from the voice. We, as teachers, rediscovered the importance of the voice and storytelling."
Tutor in CABA, on her experience in the program.

Mendoza, Argentina

"He is happy because he improved his grades!"
Tutor in Mendoza, observation about one of his students.

Guatemala

"The type of experience was enriching for my professional level, and although it may seem incredible; listening to the children and their joy motivated me on many occasions."
Tutor in Guatemala, about his experience in the program.

Peru

"Don't let people influence your projects. Women have the capacity to do what men do."
Student in Peru, about what she has learned in the program.

El Salvador

"On a personal note, what I loved was having instilled that self-esteem in that child who thought he couldn't but ended up grateful because 'now I like math, teacher, now I'm doing well in math, my math teacher congratulated me.' I had two children, two cases where the mothers are very, very grateful for the project because it managed to inject self-esteem, it managed to inject self-confidence, and that part for me has been enormously fulfilling."
Tutor in El Salvador, observation about one of his students.

"Even I as a mother learned a lot, I was even able to divide alongside my daughter."
Caregiver in El Salvador, about her experience in the program.

"They motivate me to keep learning."
Student in El Salvador, about her experience in the program.

Tabasco, Mexico

"It was hard for me to do division operations and thanks to teacher Eddy I learned super well in school, so I recommend that other children work on the tutoring."
Student in Tabasco, about his experience in the program.

"I get very excited to see the progress of my students and know that I influenced it."
Tutor in Tabasco, about his experience in the program.

Guanajuato, Mexico

"What I like most about this project is that it reaches children who really need support, so I find it fabulous that we adults who can do so provide that support to these children who need it so much right now. Especially after the pandemic."
Tutor in Guanajuato, about her experience in the program.

"I lost my fear of mathematics."
Student in Guanajuato, about his experience in the program.

Colombia

"Together with the children and their families, we have witnessed the incredible results we achieved, hearing it from their own voice, hearing their gratitude, that bond that was generated despite the distance and not knowing our faces was something truly wonderful."
Tutor in Colombia, about her experience in the program.

"We have many expectations, the problems left by the pandemic we are still carrying with us because unfortunately several of our students are behind, and we need the leveling process that we have started here at the institution to be strengthened."
School coordinator in Colombia, expectations about the program.

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Footnotes

1. The eight years of effective schooling are obtained by standardizing the results of national education tests by a reference score with advanced results.

2. **Expected years of schooling:** Refers to the estimated number of years a person can expect to attend within a country's educational system, that is, the expectation of years of education. This estimate is based on current enrollment rates at different educational levels, ranging from pre-primary to upper secondary, corresponding to the ages of 4 to 17 years. It is important to clarify that this term does not directly represent the years of compulsory schooling. **Years of schooling adjusted for learning:** Are calculated by multiplying the estimates of the expected years of schooling by the proportion of the most recent scores of the harmonized tests to 625, where 625 corresponds to advanced performance in the TIMSS test (Trends in International Mathematics and Science Study).

3. See table II. B1.2.6 'Low and top performance in reading, by students' socio-economic status' of the PISA 2018 Report.

4. It is important to note that the results consider the participants of this global evaluation in 2018: Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Panama, Peru, Dominican Republic, and Uruguay.

5. In PISA 2018, there were six levels of performance, each with a range of 80 points difference.

6. The school completion rate is calculated by dividing the number of students who have completed a specific educational level (such as secondary education) during a given period, by the total population of students at that educational level in the same period.

7. Estimates from household or employment surveys. Information for children aged 4-14 years: Argentina – EPH (2019, 2020, 2021, 2022), Brazil – PNADC (2019, 2020, 2021, 2022), Colombia – GEIH (2019, 2020, 2021, 2022), Costa Rica – ENAHO (2019, 2020, 2021, 2022), El Salvador -EHPM (2019, 2020, 2021), Ecuador – ENEMDU (2019, 2020, 2021, 2022), Guatemala – ENEI (2019, 2021), Honduras – EPHPM (2019, 2021), Mexico-ENOE (2019, 2020, 2021, 2022), Panama-EPM (2019, 2022), Paraguay-EPHC (2019, 2020, 2021), Peru – ENAHO (2019, 2020, 2021), Dominican Republic-ENCFT (2019, 2020, 2021), Uruguay-ECH(2019, 2021, 2022). Argentina only has urban coverage. For Colombia, the 2019-2021 and 2022 surveys are not strictly comparable because the sampling frame changed in 2022. The school attendance rate is defined as the total number of people in an age cohort who reported attending some educational establishment (school, college, university) divided by the total number of people in that age range. For Argentina, Brazil, Colombia, Mexico, the data correspond to the third quarter of each year.

8. This section is based on the documents of Naslund, E. (2023) and Valiant, D. (2023) published as part of the policy note series accompanying this monograph.

9. Among these analyses, the following stand out:
   - In mathemat ics, a review of 50 studies on peer tutoring found that 75% of the studies revealed medium to very large effect sizes, with a medium effect size of large to very large (Alegre et al., 2018, 2019);
   - Another review, this time of 16 studies, confirmed these findings, detecting gains in tutors and tutees (Leung, 2019);
   - In 2020, a review of 96 studies concluded that tutoring has a positive impact on educational achievement (Nikow et al., 2020)

10. For example, in India, an additional school year of gain was estimated thanks to private tutoring (Dongre and Tewary, 2014). Other recent studies on tutoring for early grades show high effects in reading that also remain over time in school (Bøg et al., 2021; Markovitz et al., 2021).

11. In 2021, a review of 46 case studies found a positive effect of peer tutoring on vulnerable students, both in educational achievement and social behavior (Moeyaert et al., 2021).

12. From this point of view, a national tutoring policy has the potential to extend to disadvantaged sectors access to an educational resource intensively used in households with high incomes. The global market for private tutoring is valued at 124 billion dollars, and the number of private tutoring centers in the United States tripled between 1997 and 2016, with most of that growth concentrated in high-income communities (Kraft et al., 2021).

13. As Wittwer and colleagues show, a diagnostic-based approach to support tutors in developing a model of the tutored person effectively contributes to the individualization of instruction in tutoring (Wittwer et al., 2010).

14. This section is based on the document of Hevia, F. (2023), published as part of the policy note series accompanying this monograph.

15. The analysis of Angrist et al. (2020) is based on more than 150 educational interventions.

16. Abdul Latif Jameel Poverty Action Lab (J-PAL) and Pratham (Banerji and Chavan, 2016), use randomized evaluations (Randomized Controlled Trial) that allow comparing results between a treatment group and a control group selected randomly.

17. For more information on standard deviations, see Box 3.2.

18. In the United Kingdom, the National Tutoring Program reached more than 62,000 students in 2020 during school closures, which was important, but insufficient to meet the identified needs (Montacute and Cullinane, 2021).

19. In the field of health education, for example, there is some evidence that telephone calls, along with text messages (SMS), improve compliance with medical treatments (Lee et al., 2015).

20. The need to invest in and experiment with remedial programs that can facilitate the recovery of lost learning for these students was and remains a priority in the educational policy of many countries (World Bank, 2021a,b).

21. Other studies on remote tutoring conducted after the pandemic are those of Choon et al. (2023) and Kraft et al. (2022). The study of Choon et al. (2023), carried out in Bangladesh during 2021, found positive effects on primary students' mathematical knowledge through Interactive Voice Response (IVR) guided tutoring by phone. It is not included in this chapter because it is not based on tutor-led instruction. The study of Kraft et al. (2022) conducted in the United States during the pandemic with high school students to improve their performance in mathematics and reading is also not included, as it did not find evidence of significant impact.

22. Private tutoring has gained popularity worldwide, including in countries such as the United States, South Korea, and Canada (Kim et al., 2021). On average, an American family with children between 6 and 17 years paid around US$230 for tutoring in 2016. Tutoring serves to reduce perceived deficiencies in public education and the low quality or limited offering of educational institutions.

23. They are also exploring other incentives to keep tutors motivated and complete the program, such as offering university credits to those studying to become teachers or randomly selecting some of them to attend classes at Harvard University after successfully completing at least one tutoring module.

24. For more information, see the section on national remote tutoring programs references at the end of this publication.

25. To learn more, visit the website: www.menttores.org

26. The program provides tutors with training in child protection, with an emphasis on preventing inappropriate online behaviors. It also includes regular monitoring of their performance, thus ensuring a safe and effective learning environment for students.

27. For more information, see Box 4.1.

28. In terms of standard deviations, the impact on performance ranges from 0.26 to 0.48, equivalent to several months of learning. To put the effects of these programs in context, the meta-analysis of Nickow et al. (2020) on the effectiveness of in-person tutoring finds a combined general effect size of 0.37 standard deviations.

29. The effect detected in the final annual mathematics grades was equivalent to 0.48 standard deviations.

30. Academic performance was measured through a standardized test in mathematics, Italian, and English, administered at the end of the tutoring period. The test was developed in cooperation with two experienced high school instructors and contained seven multiple-choice questions in mathematics and Italian and five multiple-choice questions in English. It is a test that replicates the format of the National Assessment that students must complete at the end of high school. On average, students in the control group answered correctly half of the questions (53%).

31. The positive academic results for the implementation in 2020 were confirmed in 2022 with an improvement of around 0.21 standard deviations (statistically significant at 1%) in the grades of students assigned to remote tutoring.

32. Students with access to higher-quality devices (tablets and laptops) achieved an increase of 0.27 standard deviations in standardized test scores, while those who received their tutoring primarily via smartphones registered an increase of 0.22 standard deviations. This result is statistically significant at a 5% level.

33. The average effects in the five countries were 0.30-0.35 standard deviations (Angrist et al. 2023).

34. In a treatment group, students were given text messages with math problems. Households enrolled in the second treatment received a combined package of phone tutoring and text messages. The evaluation was adapted for phone delivery from the Annual Status of Education Tool (ASER), developed in 2005 by Pratham and used in more than 14 countries. The program was monitored with this tool at four to six-week intervals, and measures were applied to ensure reliability. For example, students had a two-minute time limit per question to minimize the likelihood of family members helping them. Also, each child had to explain how they solved each problem for it to be considered correct. Formal validity tests were also included, such as comparing in-person assessments with remote evaluations (Angrist et al. 2023).

35. The average effect of phone tutoring sessions delivered by teachers was 0.31 standard deviations, compared to 0.26 for NGO facilitators.

36. Given that teachers represent a possible pathway to scaling phone tutoring programs, assessing their capacity to do so is an indicator of whether this type of program can be expanded using existing resources in each country's educational systems.

37. In the learning of these households, there was an effect of 0.08 standard deviations.

38. Uganda had a positive effect of 0.21 standard deviations.

39. The Philippines had a positive effect of 0.09 standard deviations.

40. To obtain this measure, data were collected on which mathematical operation each tutor taught during a given week and whether the student could correctly answer a simple "checkpoint" question.

41. Passed in 2021, it is a $1.9 trillion aid package to combat the repercussions of COVID-19. It includes $122 billion for preschool to high school education. More than half of these funds have been allocated to services such as tutoring and learning programs.

42. For more information about school reopenings during the pandemic, see: https://www.whitehouse.gov/briefing-room/legislation/2021/01/20/president-biden-announces-american-rescue-plan/

43. AmeriCorps is a civil service program in the United States that allows individuals to work on public service projects with a network of non-profit organizations, schools, public agencies, and community and religious organizations. AmeriCorps members address critical community challenges in education, public safety, health, and the environment. More information about their role in the NPSS can be found at: https://americorps.gov/newsroom/americorps-joins-white-house-department-education-launch-national-effort-support-student

44. The results show a positive effect of an aspiration index equivalent to 1.15 standard deviations.

45. The positive effect was around 0.14 standard deviations, statistically significant at the 10% level.

46. To measure perseverance, a logical task and the self-report tenacity scale of Duckworth and Quinn (2009) were used.

47. Empieza Por Educar is an NGO that works to contribute to educational equity in Spain. For over 10 years, it has trained and accompanied teachers who teach in schools in disadvantaged environments.

48. Knowledge tests applied before the implementation of the program to determine the initial level of the students.

49. These latter studies replicate a program developed in Botswana and constitute one of the largest multi-country evaluations in education conducted to date. These replication efforts in multiple countries demonstrate how an approach can be carried out in different contexts and reveal the potential of rigorous evidence to inform policies and practices.

50. With the exchange rate applied on 28/07/2023 (1.1029 euros per dollar), this amount corresponds to approximately 397 million dollars.

51. The timing of the intervention (towards the end of the academic year, when university students tend to be busier due to final exams) and the fact that life in Spain had largely returned to normal by March 2021 (university students were no longer confined to their homes as they had been between March and June 2020) are possible explanations for the low response to the call for volunteer university students.

52. Improvements were 0.26 standard deviations in the case of facilitators and 0.31 in the case of government teachers.

53. With the exchange rate applied on 28/07/2023 (1.28 dollars per pound sterling), a sum of 349 million euros corresponds to approximately 446 million dollars.

54. "With the exchange rate applied on 28/07/2023 (1 US dollar equals 827.27 Chilean pesos), 100 million Chilean pesos are equivalent to 120,917 US dollars.

55. The Educational Community is understood as "that group of people who, inspired by a common purpose, make up the educational institution; it includes students, parents and guardians, education professionals, education assistants, management teams, and educational sponsors" (Ministry of Education of Chile, Pro-Bono Foundation).

56. To facilitate the implementation of this initiative, territorial actors will be established at the regional and provincial levels. Each region has at least one regional coordinator, coordinated from the central level of the Ministry of Education of Chile (MINEDUC), as well as at least one provincial coordinator, coordinated at the regional level. The role of these territorial actors will be crucial in articulating conversations and actions between higher education institutions, implementing institutions, and educational establishments. Their function is to ensure the alignment and fulfillment of the program's objectives in each geographical area.

57. Home internet access in vulnerable groups is 45%, on average, while in more favored groups it reaches 98% (Riebe-Aubourg and Viteri, 2020).

58. Impact evaluations seek to answer cause-and-effect questions that can be summarized as "What is the impact of a given intervention on an outcome of interest?". In this way, to estimate the causal effect or impact of an intervention, the evaluation method must construct a counterfactual, i.e., estimate what would have been the outcome for those who received the intervention if they had not benefited from it. "Experimental" methods are based on the random assignment (draw) of the intervention to construct a counterfactual. "Quasi-experimental" methods employ a counterfactual but do not rely on the random assignment of the intervention to construct it (Gertler et al., 2017).

59. Other measures of impact in terms of learning suggest a similar message. In El Salvador and Guanajuato, students who received the tutoring had a relative improvement equivalent to 33% (in both cases) compared to the progress observed in the control group. The "dose effect" is also verified with this measure.

60. The sensitization of actors involves making the project known to the various stakeholders who will be part of it: governments and members of the ministries of education, school directors and teachers, and families. The goal is to communicate clearly and effectively the purpose of the project, how its objectives will be met, and what is needed from each of the actors to achieve it.

61. The baseline is a stage of information collection through knowledge tests applied before the implementation of the Program, both in the group that receives the intervention (treatment group) and in the comparison group that does not receive the intervention (control group). From the baseline, the initial level of the students is defined.

62. The initial evaluation consists of a standardized diagnostic test administered by the Program that identifies the learning level of each student in the curricular area of the tutoring, so that the tutor can define the starting point and the content that will be covered in the tutoring, following the principles of TaRL.

63. The "mathematical challenges" could range from simple operations for practice to more complex math problems. The term is chosen for its playful focus, encouraging a more active and creative solution. Additionally, the challenges sought to motivate participation at home, strengthening skills and collaboration between caregivers and children.

64. The SCAS consists of 38 questions about anxiety, designed for children to respond on a Likert scale: never (0), sometimes (1), often (2), and always (3). The questions are grouped into six subscales which are: 1) separation anxiety, 2) social phobia, 3) obsessive-compulsive, 4) panic/agoraphobia, 5) fear of physical injury, and 6) generalized anxiety.

65. Similar to the baseline, the follow-up line is a stage of information collection at the end of the Remote Tutoring Program. Information is collected from all students who participated in the baseline (i.e., surveys are not only given to students who were assigned the tutoring, but also to the control group students), and the standardized mathematics test is applied as well as questions related to socioemotional aspects, aspirations, etc.

66. https://www.iadb.org/es/noticias/el-bid-anuncia-los-ganadores-de-la-iniciativa-superheroes-del-desarrollo-2022

67. Evidence from other experiences highlights the importance of the first communication with families for the adoption of educational programs. Robinson (Robinson et al., 2022) found that only 19% of the students who were attempted to be contacted actually participated in tutoring programs, and that participation difficulties increase especially when the tutoring is conducted outside of school hours. Students with academic delays are half as likely to use remote tutoring resources compared to their higher-performing peers (Loeb and Robinson, 2022; Robinson et al., 2022).

68. In experimental evaluations, it must be taken into account that being assigned to tutoring, i.e., being a beneficiary of it, could generate changes in student behavior that affect the outcome (for example, if the beneficiary students change class, or the control students feel negatively affected by not being offered the tutoring). Fortunately, in the pilots, we found no evidence that this occurred.

69. The difference-in-differences method compares changes in outcomes over time between the treatment and control groups. This allows correcting any difference between the groups that is constant over time (Gertler et al., 2017).

70. This alternative methodology was used due to issues associated with field operations, which impacted information collection.

71. A variable was generated as the difference between the results between the two rounds of data collection, and it was explained through a linear regression using the control variables from the previous models. The average progress of the controls, estimated through this regression, was used to standardize the mathematics score variables and obtain the estimates again.

72. As of May 2023.

73. For more information: https://buenosaires.gob.ar/espacio-virtual-de-apoyo-escolar

74. For example, circuit B began with content related to the number system and included additional activities corresponding to the multiplicative field relative to rational numbers. Circuit C began with calculation strategies for addition and subtraction and included the additional activities of circuit B and an additional set of exercises to deepen aspects of rational numbers.

75. An example of this greater difficulty is the following: it was decided that in each of the three content groups (number system, additive field, and multiplicative field) instructions that reflect different levels of progress would be presented. This translates, for example, into having application activities of a calculation technique, solving a problem, and another exercise that requires a reinterpretation of what has been done, all in the same week.

76. The rest were discarded, either due to the ages of the students or for lacking valid telephone numbers of their responsible adults.

77. For this, the following steps were followed: 1) Communication from the educational system: information models about the pilot were shared with officials from the General Directorate of Primary Schools and School Supervisors so that they could sensitize and promote the pilot in the educational system; 2) Contact with school principals: models of letters to school principals were shared, informing about the implementation of the tutoring and the mechanisms of registration and operation; 3) Mass email sent to families to inform and promote registration in the program and to facilitate a pre-registration form.

78. In Mendoza, the initial registration was 487 potential tutors. Of these, 144 passed the first filter, according to which tutors had to be fourth-year students and have availability in the afternoon. From this group, 116 completed an entrance evaluation and began their training. Finally, 74 tutors were selected. Due to the lack of tutors in CABA, 21 were transferred to work with students from that jurisdiction. Of the remaining 53 tutors, five were dismissed due to low participation during the first week. Finally, 48 tutors began and completed the entire Tutoring Program.

79. A matching exercise was carried out (or matching) of the observations from the calculation of a propensity index to complete the tutoring sessions (treatment subgroup with 7 or 8 sessions completed). To build the tutor commitment indicator, four sources of information were considered: (1) Data on the performance of tutors during the training period, considering the frequency with which they logged into the virtual campus, the number of training sessions they attended, the number of activities they completed, and the number of correct answers they obtained in the quizzes; (2) Number of interactions in the virtual campus forums during the Tutoring Program. Tutors were encouraged by the coordinators to participate in the forums, but they were never obliged to do so. To group participation, the eight weeks of the Program were divided into three phases (week 1 to 3, 4 to 6, and 6 to 8) and the number of exchanges made in each phase was recorded; (3) Length of the comments recorded by tutors in each of the tutoring sessions conducted, assuming that this optional field accounts for a tutor with more commitment to the monitoring and recording of the student; (4) Collection of the students' perceptions about their tutor's work, which was done near the end of the Program. For this, the tutored students were asked to what extent they considered that their tutor motivated them to learn, managed to make them understand concepts, and gave them confidence to ask questions and reveal doubts. These four sources of information were combined to build an indicator of the tutors' level of commitment, from which they were grouped into three levels of commitment: low, medium, and high.

81. Part of this section is based on the document by Gironza, D. (2023) published as part of the series of policy notes that accompany this monograph.

82. Part of this section is based on the document by Parker, D. (2023) published as part of the series of policy notes that accompany this monograph.

83. Among the school-educated, we define students who do not achieve the minimum learning levels in the sixth grade according to PISA 2018 and PISA-D data.

84. We obtain the total number of children aged 12 to 14 from household surveys in the various countries of the region. We assume that the distribution of children of each age (12, 13, and 14) is equitable, so the 12-year-olds represent one-third of the total number of children aged 12 to 14.

85. Estimates from household or employment surveys. Information for children aged 4-14 years: Argentina – EPH (2019, 2020, 2021, 2022), Brazil – PNADC (2019, 2020, 2021, 2022), Colombia – GEIH (2019, 2020, 2021, 2022), Costa Rica – ENAHO (2019, 2020, 2021, 2022), El Salvador -EHPM (2019, 2020, 2021), Ecuador – ENEMDU (2019, 2020, 2021, 2022), Guatemala – ENEI (2019, 2021), Honduras – EPHPM (2019, 2021), Mexico-ENOE (2019, 2020, 2021, 2022), Panama- EPM (2019, 2022), Paraguay-EPHC (2019, 2020, 2021), Peru – ENAHO (2019, 2020, 2021), Dominican Republic-ENCFT (2019, 2020, 2021), Uruguay-ECH(2019, 2021, 2022). Argentina only has urban coverage. For Colombia, the 2019-2021 and 2022 surveys are not strictly comparable because the sampling frame changed in 2022. The school attendance rate is defined as the total number of people in an age cohort who reported attending an educational establishment (school, college, university) divided by the total number of people in that age range. For Argentina, Brazil, Colombia, Mexico, the data correspond to the third quarter of each year. The foundational learnings, or minimum learnings used correspond to those internationally agreed to report the Sustainable Development Goal 4.1.1 of the United Nations (UNESCO-UIS, 2017, 2018a). These were calculated based on the percentage of students who reach level 2 or higher of the international evaluations ERCE and TERCE 2019 and PISA 2018/PISA-D.

86. To simplify the exercise, we assume that the cost per student is the same for students inside and outside of school.

87. For this exercise, we assume that tutors would use their own devices and do not include equipment costs with devices. However, among the assumptions is a ratio of 15 students per tutor, which in previous experience has been feasible to manage with the tutors' own phones.

88. Own elaboration based on World Bank (2023). It compares the expenditure per tutoring in local currency with the government's education expenditure, both in local currency.

Annexes

Annex 4.1

Table A.4.1.1 Characteristics Measured at Baseline of Students Randomized to Treatment and Control Groups Who Answered Follow-up Interviews

	El Salvador			Tabasco			Guanajuato			Guatemala		
	Control (1)	Treat. (2)	Difference (1)-(2)	Control (1)	Treat. (2)	Difference (1)-(2)	Control (1)	Treat. (2)	Difference (1)-(2)	Control (1)	Treat. (2)	Difference (1)-(2)
Woman	0.53	0.51	0.01	0.51	0.52	-0.01	0.53	0.52	0.01	0.50	0.47	0.04
Age	11.80	11.72	0.08	10.67	10.92	-0.246*	10.69	10.64	0.05	11.40	11.44	-0.04
Age - 9 to 11	0.43	0.46	-0.033*	0.73	0.65	0.083*	0.79	0.79	-0.01	0.51	0.54	-0.03
Disability	0.05	0.06	-0.01	0.03	0.06	-0.030*	0.03	0.04	-0.01	0.03	0.05	-0.02
Indigenous*	N/A	N/A	N/A	0.04	0.06	-0.02	0.04	0.06	-0.02	0.12	0.09	0.03
Secondary (1st to 3rd year)	0.28	0.29	-0.01	0.15	0.30	-0.150***	0.16	0.13	0.03	0.29	0.29	0.01
Face-to-face	0.88	0.86	0.02	0.81	0.67	0.141***	0.77	0.78	-0.01	0.35	0.38	-0.03
Regular face-to-face (5 days a week)	0.69	0.67	0.02	0.36	0.16	0.198***	0.44	0.43	0.01	0.07	0.05	0.02
Enjoys studying a lot	0.84	0.85	0.00	0.78	0.80	-0.02	0.75	0.77	-0.02	0.83	0.80	0.02
Eager to learn	0.92	0.91	0.01	0.85	0.86	-0.02	0.90	0.90	-0.01	0.85	0.82	0.03
Over-age (mild)	0.05	0.04	0.01	0.05	0.00	0.051***	0.03	0.03	0.01	0.05	0.04	0.01
Parents without High School	0.68	0.68	0.01	0.49	0.50	-0.02	0.69	0.67	0.02	0.82	0.81	0.01
Socioeconomic Score (NSE)	112.77	112.64	0.13	113.41	116.76	-3.36	134.00	130.44	3.559*	118.23	116.62	1.61
NSE Low	0.58	0.57	0.01	0.39	0.44	-0.05	0.33	0.38	-0.050*	0.52	0.54	-0.02
NSE Medium	0.29	0.31	-0.02	0.43	0.37	0.07	0.49	0.45	0.04	0.37	0.35	0.02
NSE High	0.13	0.12	0.01	0.17	0.19	-0.02	0.18	0.17	0.01	0.12	0.11	0.00
Has internet at home	0.33	0.37	-0.042**	0.73	0.70	0.04	0.77	0.78	-0.004	0.47	0.46	0.00
High or elevated anxiety	0.38	0.37	0.37	0.32	0.35	-0.03	0.35	0.32	0.03	0.38	0.42	-0.03
Observations	1,283	1,353		395	145		625	519		389	492	

Source: *own elaboration.*
Note: ** the question of ethnic self-recognition was added from the Tabasco implementation, so it was not included in El Salvador. The question was: "Does your family declare that it is of indigenous or Afro-descendant origin?" Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01*

Annex 4.2

Figure 4.3 "Percentages of Students According to Number of Tutoring Sessions Completed and Completion of the Mesoamerican Pilot Programs" is generated from the data in the following table, where all percentages are calculated based on the total number of students who participated in the Remote Tutoring Program. First, student participation is categorized according to the number of tutoring sessions they participated in. Subsequently, the completion of the Program is evaluated, considering the number of students who passed the division level.

Country	Mexico			
Pilots	1. El Salvador	2. Tabasco	3. Guanajuato	4. Guatemala
Number of students who participated in the Tutoring Program	**818**	**158**	**623**	**522**
Participated in 1-2 tutoring sessions	85	18	59	23
Participated in 3-7 tutoring sessions	69	61	81	33
Participated in 8 tutoring sessions	664	79	483	464
Passed division level	547	95	447	364
Completed the Program*	691	103	515	479
Percentage that:				
Participated in 1-2 tutoring sessions	10%	11%	9%	4%
Participated in 3-7 tutoring sessions	8%	39%	13%	6%
Participated in 8 tutoring sessions	81%	50%	78%	89%
Passed division level	67%	60%	72%	70%
Completed the Program*	84%	65%	83%	92%

Source: *own elaboration.*
Note: **completed the Program either by reaching the number of tutoring sessions or passing the division level.*

Annex 4.3

Figure 4.4, "General Survey Results for Caregivers," is generated from the "Total" column data in the following table:

Satisfaction Survey with Remote Tutoring, for Caregivers. General Satisfaction

	El Salvador	Guanajuato	Guatemala	Tabasco	Total
Very satisfied with the Quality of the Tutoring	79%	76%	77%	73%	78%
Believes that Tutoring Greatly Improved Learning in Mathematics	92%	88%	92%	83%	91%
Observations	645	396	589	96	1,721

Source: *own elaboration.*

Figure 4.4, "Caregivers Perceived Improvements in Students in School-Related Skills," is generated from the "Total" column data in the following table:

Satisfaction Survey with Remote Tutoring, for Caregivers. Learning and Developed Skills

	El Salvador	Guanajuato	Guatemala	Tabasco	Total
Study Habits	50%	42%	47%	39%	46%
Curiosity about Mathematics	49%	39%	49%	48%	47%
Motivation for School	51%	54%	55%	45%	52%
Order and Discipline for Doing Tasks	41%	45%	43%	36%	42%
Observations	645	396	589	96	1,721

Source: *own elaboration.*

Annex 4.4

Table A.4.4.1 Program Impacts, in Standard Deviations, SMS Test

Experimental Evaluation		
	Assignment to Treatment[1]	**Impact on Treated**[2]
El Salvador	0.121*** (0.0360) [2,636]	0.234*** (0.0694) [2,636]
Guanajuato	0.206*** (0.055) [1,144]	0.214*** (0.057) [1,144]
Quasi-experimental Evaluation: Differences in Differences		
		At Least One Tutoring[3]
Guatemala		0.155** (0.071) [2,254]
Tabasco		0.408*** (0.127) [1,080]

Source: *own elaboration.*
Note: *standard errors in parentheses; number of observations in brackets. Significance levels: *p< 0.10, **p < 0.05, ***p < 0.01. The number of observations for the differences-in-differences estimates correspond to the model estimated in a two-period panel base, thus representing double the number of children interviewed in the follow-up line.*
1 *See equation (1) in Annex 4.5.*
2 *See equations (2) and (3) in Annex 4.5.*
3 *See equation (4) in Annex 4.5.*

Table A.4.4.2 Association of the Program and the Number of Tutoring Sessions Completed, in Standard Deviations, SMS Test

Experimental Evaluation		
	Association per Tutoring Session[1]	**Association for 8 Tutoring Sessions**[2]
El Salvador	0.033*** (0.0098) [2,636]	0.290*** (0.0429) [2,636]
Guanajuato	0.030*** (0.0079) [1,144]	0.270*** (0.057) [1,144]
Quasi-experimental Evaluation: Differences in Differences		
	Per Tutoring Session[3]	**8 Tutoring Sessions**[4]
Guatemala	0.017* (0.009) [2,254]	0.128* (0.074) [2,144]
Tabasco	0.051*** (0.018) [1,080]	0.437*** (0.162) [936]

Source: *own elaboration.*
Note: *standard errors in parentheses; number of observations in brackets. Significance levels: *p< 0.10, **p < 0.05, ***p < 0.01. The number of observations for the differences-in-differences estimates correspond to the model estimated in a two-period panel base, thus representing double the number of children interviewed in the follow-up line*
1 *See equations (2) and (3) in Annex 4.5 and explanatory notes.*
2 *See equation (5) in Annex 4.5.*
3,4 *See explanatory notes in Annex 4.5*

Annex 4.5

To measure the impact of the assignment to treatment (*Intention To Treat*, or *ITT* in English), we estimate the following linear regression model:

$$Y_i = \beta_0 + \delta D_i + \alpha X_i + \varepsilon_i \qquad (1)$$

Where Y_i is the outcome variable, which measures learning in mathematics in the follow-up line for student i, D_i is a dichotomous variable indicating whether student i was randomized to treatment, and X_i is a vector of control variables: individual, educational, socioemotional, family, geographic context characteristics, and results of the mathematics test, all measured at baseline. δ is the parameter of interest, indicating the estimated impact of the assignment to treatment.

To measure the effect on the treated (Treatment On the Treated or TOT in English), which quantifies the impact of the program on students who actually took tutoring, in a first stage (equation 2) we estimate the value of T_i (a dichotomous variable indicating whether students took at least one tutoring session) as a function of the control variables and the treatment assignment variable D_i, which functions as an instrument.

In a second stage, we also estimate using ordinary least squares the learning Y_i as a function of the control variables and the estimated $\hat{T_i}$, whose coefficient ϱ is the TOT.

$$T_i = \pi_0 + \gamma D_i + \pi X_i + v_i \qquad (2)$$

$$Y_i = \alpha_0 + \varrho \hat{T_i} + \alpha X_i + \omega_i \qquad (3)$$

The difference-in-differences model was estimated with the panel base:

$$Y_{it} = \alpha_i + \gamma_t + \varrho D_{it} + \varepsilon_{it} \qquad (4)$$

Where Y is the mathematics outcome variable; the indices i and t refer to students and the two rounds of data collection, respectively; and D is a variable that takes the value zero in $t = 1$ and indicates having received treatment in $t = 2$.

For the estimates in which differentiation by the number of sessions effectively carried out (Table A.4.2) was made, two approaches were used, both for the experimental design and for the quasi-experimental. For the first, on the one hand, the method of instrumental variables in two stages was used: in the first, the continuous variable of tutoring was estimated, using the control variables and the assignment to treatment as an instrument. In the second stage, the regression of the learning variable was run with the control variables and the number of tutoring sessions estimated in the previous stage. That is, equations (2) and (3) were estimated where T_i , instead of being a dichotomous variable indicating whether a student attended at least one tutoring session, was a continuous variable identifying the number of tutoring sessions effectively carried out.

On the other hand, two new dichotomous variables were created: one, indicating the students who did 1 to 7 tutoring sessions (NC_i) and another, indicating those students who did eight tutoring sessions, that is, who completed the program (C_i), and a linear regression was carried out as follows:

$$Y_i = \beta_0 + \lambda NC_i + \phi C_i + \alpha X_i + \varepsilon_i \qquad (5)$$

The parameter of interest is ϕ, which represents the association between completing eight tutoring sessions and learning.

For the calculation of the association of the program and the number of tutoring sessions carried out in the quasi-experimental cases, a model like that of equation (4) is used where the variable D_i, is the interaction between time and the weeks of tutoring sessions carried out (continuous variable), and the interaction between time and a dichotomous variable of whether the students completed eight tutoring sessions.

Annex A

Development of this publication: a collaborative effort

As mentioned in the Acknowledgements section, this publication has been the result of a collaborative effort of several teams in different regions of the world, who have implemented or researched remote tutoring interventions as a strategy to recover and accelerate learning in diverse contexts.

The contribution of the experts who were part of the technical committee of this publication is reflected in the series of brief notes at the beginning of each chapter, which largely fed the content developed in each of the pages. The names of the committee members are as follows:

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