MULTIPLYING LEARNING

Remote Tutoring to Enhance Schooling
MULTIPLYING LEARNING
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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.
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 Dequeni, 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, Analía 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.

Thanks to Valentina Gimenez, who supported the communication strategy and edited the main messages. Finally, to the layout designer, Juan Sebastián Fonseca, who supported the layout process of the 17 brief notes published and this document.

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.
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.

**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.
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

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

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
Download
Learning crisis in Latin America and the Caribbean

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1.2 The post-pandemic as an opportunity to improve educational policies 31
What did we learn?

Education in Latin America and the Caribbean presents lower schooling, lower learning performance and a lower educational completion rate compared to other regions of the world. The COVID-19 pandemic exacerbated this situation.

Inequalities in educational performance reveal significant disparities depending on family background, socioeconomic level, geographic location, ethnicity, and gender. Educational systems must find alternatives to reduce learning gaps through structural policies and specific support for lagging students.

For Latin America and the Caribbean to live up to its enormous potential, it is key that all actors in the educational sector, including governments, educational institutions, teachers, families and society in general, work together and commit to the goal of strengthening foundational learning and socioemotional skills.
Every morning, Juan Esteban, a boy from a rural community in Colombia, prepares for school. Similar to all the other boys his age, Juan prepares his school materials and places them in a small backpack he slings on his back. However, Juan does something else: he puts on the most hard-wearing pair of shoes he owns and a cap. He needs them for the six-kilometers walk from his home to school twice: there and back (RCN, 2022). This represents two hours of commuting at minimum, meaning a third of his school journey, which starts at 8.30 a.m. and goes on until 12.30 p.m.

If Juan is lucky, a neighbor who usually takes the same route on a horse-pulled wagon will approach him to school, or in the afternoon going home. The boy does not really mind. Over time he has become used to the mandatory walk because without it, he would never learn how to read, write, and add.

 Millions of students from Latin America and the Caribbean experience similar situations as Juan’s, not only in rural areas but also in cities where girls and boys live in precarious neighborhoods and they must go to school facing poor infrastructure, inadequate transportation, unsafe roads, or simply quite a long distance.

From this, after finishing elementary school, those students who live in the worse conditions have acquired the least knowledge and skills than those who have been in favorable conditions (Galván Mora, 2020). All these structural inequalities in Latin America and the Caribbean cause disparities in the students’ learning process and in the schools’ performance; moreover, there is a considerable gap between the education systems and other regions of the world. Therefore, the number of young people who do not manage fundamental learning is extremely high and has large variability within the region.

Even if there are no detailed statistics that confirm the exact impact of the COVID-19 pandemic on the whole region, there is no doubt that it worsened the situation. The health crisis has had a devastating impact on learning and has deepened the educational gaps that characterize Latin America and the Caribbean, the regions that suffered one of the longest school lockdowns of the world (UNICEF, 2020a). In 2020, 114 million students in the region left onsite lessons, and in mid-2021, 86 million had not returned to the classroom. Additionally, less study time was detected in vulnerable homes,
which is linked to a poor academic performance and a higher probability of dropping out of school (Abizanda et al., 2020; Zoido et al., 2020).

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). As ironic as it may seem, the pandemic created the conditions to face structural improvements within our educational systems that experience a silent crisis that is often ignored or left as a second priority on the political agenda and the electoral platforms. For example, due to it, the importance of teachers and educational institutions was outlined as the backing of the learning process, and also the mutual worth between teachers and families. In addition, the need to face in an explicit manner the emotional well-being of those who take part in educational communities was emphasized (Reimers, 2021).

This chapter portrays the educational challenges faced in the region focusing on learning, and in other variables linked to the educational environment.
It is key to understand and recognize this reality to appreciate truly the urgency for innovative and scalable solutions that enhance the learning acceleration and that contribute to decreasing educational inequalities among students, schools, and countries. The purpose is for all students to improve but may those who improve the most be the ones who displayed the worse performance, and thus, guarantee no one is left behind, regardless of their environment.

This is a complementary answer to the countries’ syllabus, based on strengthening core skills, with personalized guidance, adapting to the specific needs of each student and using accessible technology at a low cost. Evidently, these do not solve all educational challenges, but they can be a first step and an example of what is possible to achieve with a relatively small investment when potential talent in our region is recognized and encouraged.
1.1 Educational challenges beyond the pandemic

Although COVID-19 accelerated a positive transformation in numerous aspects of society, such as digitalization, the educational aspect worsened into an already complex situation, marked by the inequalities that characterize the countries in the region (Bambra et al., 2020; Goudeau et al., 2021; Johnson et al., 2021). Outside of the pandemic, the educational gap in Latin America and the Caribbean compared to other more developed areas of the world may be visible considering the following elements (Morduchowicz and Pineda, forthcoming).

1. A lower level of education.
3. A lower finishing (graduation) rate.

Regarding the level of education, the region has an average of 9.07 years, which is at least 25% under the OECD countries, although it is quite similar to Western Asia, Northern Africa and the world average (Morduchowicz and Pineda, forthcoming).

Furthermore, regarding educational performance on learning processes, one of the most appalling results is that it was even lower than what was expected given the level of education in the region. Even if the educational expectation in Latin America and the Caribbean is 12 years old on average, when it comes to effective learning, it is only eight (Figure 1.1), according to data from the Human Capital Index (World Bank, 2020). This represents a four-year gap between the expected education versus the obtained one, the best in the world after Southern Asia. The separation is less in elementary school than in higher levels of education.
The disparities on learnings are observed; for example, the noticeable differences on performance depending on their family context. Such differences increase if other variables are added such as socio-economic status, geographical location, ethnic origins, or gender:

- If we consider the socio-economic reality of adolescents and teenagers, 70% of students from families with less resources do not reach the minimum reading levels, in contrast with the 29.5% of students with better positioned families.³

- In 21 countries of the region, the 20% wealthiest students have five times a greater probability to finish the second cycle of junior highschool than the poorest 20% (UNESCO, 2020).

Beyond the socio-economic inequality, there are some disparities that still remain important when it comes to diversity and inclusion (UNESCO, 2020):

- Barely 30% of the indigenous and afro-descendant population with incomes over the minimum salary have access to education.
Almost half of the countries in the region have regulations to educate students with disabilities in separated environments.

Out of seven countries in Latin America and the Caribbean, young LGTBIQ+ people report feeling unsafe in their schools due to their sexual orientation, identity, and gender expression.

The inequalities increase as students transition from elementary to junior highschool. Looking at the PISA test results, the 15-year-old students’ average performance level on reading in Latin America and the Caribbean is 407 points (Level 2), compared to 487 (Level 3) in OECD countries. In mathematics, the outlook is less encouraging because there is a two-level difference, with Latin America on Level 1 (387 points), and the OECD on Level 3 (489 points) (Morduchowicz and Pineda, forthcoming). Such disparities equal a two-to-three-year gap in Latin American students’ performance compared to other students of the same age in OECD countries.

Besides, the low levels of performance have not improved during the last decades. The learning gaps have become stuck instead of decreasing. When comparing PISA 2006 with 2018, a decrease in the results of 6.3 points in mathematics and a 4.6 in sciences is detected. Reading has the only improvement with a 4.4-point increase with a light improvement from the competency levels from at least five countries in the region (Bos et al., 2019) (Box 1.1). Nonetheless, the decrease is of little importance when considering the values on each level of competence.
Box 1.1

Lag in Mathematics and Reading

The results on PISA and PISA-D tests (Figure 1.2) show a clear difference in the average of Latin American students’ performance to the point where in reading and mathematics, between 51% and 66% of them, respectively, did not reach the minimum required knowledge. This means they cannot identify explicit information, perform simple deductions, or apply knowledge on day-to-day situations.

The biggest lags compared to other countries are in mathematics. While on the OECD average, only 24% of students did not reach the minimum knowledge in the area, Latin America and the Caribbean percentage was 66%. It is meaningful that the biggest delays are in this area, since school is more important than home during the learning process.

Figure 1.2 Comparative scores of the PISA 2018 results

<table>
<thead>
<tr>
<th>Level</th>
<th>OECD countries average PISA 2018</th>
<th>Average LAC countries PISA 2018</th>
<th>PISA-D country average</th>
<th>OECD countries average PISA 2018</th>
<th>Average LAC countries PISA 2018</th>
<th>PISA-D country average</th>
</tr>
</thead>
<tbody>
<tr>
<td>High performance</td>
<td>9</td>
<td>69</td>
<td>0</td>
<td>11</td>
<td>65</td>
<td>1</td>
</tr>
<tr>
<td>Basic or intermediate</td>
<td>65</td>
<td>1</td>
<td>23</td>
<td>34</td>
<td>66</td>
<td>34</td>
</tr>
<tr>
<td>Low performance</td>
<td>0</td>
<td>23</td>
<td>77</td>
<td>0</td>
<td>88</td>
<td>88</td>
</tr>
</tbody>
</table>

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 worsened the situation by increasing the school dropout risk by 2.5% due to the remote educational processes’ expansion (UNICEF, 2022). The COVID-19 crisis especially affected women and girls, as well as rural and remote areas, and showed two underlying weaknesses (Álvarez Marinelli et al., 2020; Lustosa Rosario et al., 2021):

1. The lack of countries’ preparedness to sustain education in the middle of an emergency.

2. The inability to solve a problem using technology.

The attempt to use technology during the pandemic surfaced the lack of teachers’ preparedness when handling these tools, for example, or the important gaps to access them in both school and home, whereas it is for the socio-economic level or geographical area. These also influence the low level of performance in learning processes. Moreover, the gap of students with computer access at home is 65 percentage points, which makes it one of the main socio-economic inequalities’ indicators in the region (Arias Ortiz et al., 2021).

Last, when analyzing completion, the results differ whether regarding primary or junior high education (Morduchowicz and Pineda, forthcoming):

- In elementary education, most of the countries have reached universal coverage. The average regional school completion rate is 94%, especially because during the last years, governments have focused their efforts on reducing the access gaps in this educational level.

- In junior highschool, the graduation rate reaches 64%, which means 30 percentual points less compared to the elementary level. Thirty-six out of 100 students were left behind between levels. Several countries in the region have lesser percentual than this average (Figure 1.3).

By gender, the graduation gaps persist. Of women, 68.7% finish junior highschool studies, whereas only 61.5% of men do, which means 7.2 percentual less. Generally, there is a tendency to reduce this gap in the region to favor women (Morduchowicz and Pineda, forthcoming).
This perspective can be discouraging, especially because many people are excluded from educational systems (schooling), and even those who are in cannot reach the appropriate learning (performance), and many who enter do not finish their studies (completion). In summary, Latin America needs structural improvements in the educational field to support more efficiently their growth and development.
The post-pandemic as an opportunity to improve educational policies

The educational delay in the region persists and the pandemic has aggravated and deepened the educational crisis in the region. However, this situation places Latin America and the Caribbean at a crossroads. The COVID-19 pandemic has made visible many issues that require urgent action, and in some cases, it has generated information and interesting evidence to explore tools that may help identify possible solutions.

All educational systems in the region must find alternatives to the population’s poor schooling, the low and uneven learning performance, and the low graduation rate in junior high-school. To achieve this, a combination of structural policies is needed, along with specific support for those students that are left behind.

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

1. Basic skills, particularly for those who were most impacted by the pandemic.

2. Socioemotional skills, such as those related to dialogue, collaboration, teamwork, and empathy.

In practice, this means to reinforce, at minimum, the fundamental and socioemotional skills to ease basic education graduation, and the school-to-work transition. Even though the effective incorporation of these basic skills into the Latin American and Caribbean educational systems entails serious challenges, recognizing their importance and adopting innovative approaches may mark a turning point in the region’s educational evolution (Mateo-Berganza, 2022).

The decline of mental health and socioemotional skills in students necessarily encourages a new approach that will consider this as an integral part of any initiative for learning acceleration (see Box 1.2). These strategies help students finish their basic studies and empower their knowledge and skills.
Actually, various countries have started emergency measures and programs to recover and increase learning as mentioned in this publication.

**Box 1.2**

**Impact caused by the pandemic on mental health and socioemotional skills**

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

A meta-analysis based on 21 studies in 11 countries reveals that a big proportion of children, teenagers, and young people between 3 and 34 years old have experienced an increase in depression, anxiety, and psychological stress levels since the beginning of the pandemic (Kauhanen et al., 2022).

These findings match those from UNICEF (2020b), which highlight that 43% of young people between 15 to 23 years old in nine Latin America and Caribbean countries feel more pessimistic about the future than before the pandemic. Moreover, 27% of them feel anxiety and 15% depression.
This report proposes that it is essential to promote a deeper transformation to accelerate learning and that a possible step toward this direction is to introduce scalable and sustainable programs that may effectively improve learning for all students. The programs described herein are proposed as a source of inspiration toward this path. Therefore, the struggle is to reduce the existence of differences and voids in the region and that less students suffer from lack of access to their education rights, similar to Juan Esteban.

Chapter 2 describes a conceptual framework for the learning acceleration strategies, especially focusing on remote tutoring. The next sections review the main results on these types of experiences in and out of the region. The last chapter enlists a series of conclusions and lessons learned throughout this entire evidence.
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
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What did we learn?

- The learning crisis in Latin America and the Caribbean requires public policies that are centered on an accelerated recovery of fundamental learnings.

- Accelerating learning involves reducing the gap between real learning for all students and the expected educational level, particularly on fundamental skills that promote continuous learning.

- Tutoring stands out as a particularly successful tool that can be adapted to different contexts and combined with innovative approaches such as learning on the appropriate level or remote support through simple technologies that are already available to the majority of the homes within the region, even the most vulnerable ones.
In Chapter 1 we outlined the depth of the learning crisis in Latin America and the Caribbean, which is clearly shown through shocking data: as observed in Figure 2.1, half of sixth-grade students fall short in developing basic mathematics competencies. These gaps accumulate and increase as the educational trajectories progress, thus reinforcing exclusion dynamics. It is urgent to pay attention to these learning shortcomings that leave deep long-term side effects for students in terms of reducing their academic and professional opportunities and for society, in terms of human capital accumulation, equity, and economic growth.

**Figure 2.1** Share of students who do not achieve foundational learning at the end of primary school

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.

To this matter, this chapter brings three conceptual elements.

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

2. A presentation of a series of common elements used in interventions that have been effective to battle the learning gap, and that help create a proposal based on a clear and precise theory of change.
3. A self-application for remote tutoring as a scalable and cost-effective solution to accelerate learning processes, promote graduating, and that guarantee all students acquire fundamental life skills.

2.1 Course repetition and remediation: two traditional inefficient strategies

Grade repetition and remediation are two traditional educational strategies with no outstanding results (Näslund-Hadley, 2023).

- Grade repetition involves making students redo a school year if they have not absorbed the minimum learning.

- Remediation refers to the additional support programs provided to help students develop skills or specific knowledge that were not consolidated during their regular education.

Both strategies encounter important criticism. Grade repetition is expensive, inefficient, and it may lead to negative effects on classroom overpopulation. Remediation often focuses on reaching curricular standards rather than ensuring basic learning. Besides, both strategies may contribute to stigmatize students requiring additional help (Darling-Hammond et al., 2020).

Battling inequalities and improving learning quality requires an innovative approach based on customized acceleration strategies and flexibles adapted to each student’s context, focused on encouraging learning that allows students to improve their self-esteem and continue growing, always supported by continuous monitoring to adapt and improve progressively. These strategies must focus on allowing those students behind in a particular area to catch up with the rest of their classmates and continue their learning journey at the same pace.
2.2 How and why to accelerate learning?

The “learning accelerating” programs are characterized by:

► ensuring learning customization,

► prioritizing foundational skills,

► constant monitoring focused on developing competencies, and

► recognizing the importance of socioemotional skills.

The following box provides a deeper definition on learning accelerating.
What does learning acceleration mean? It is complex to define “acceleration” or “accelerated education” with precision because it is a concept that has been applied in specialized literature to refer to a wide range of interventions that go from special programs for children with high cognitive potential to certification programs for adults.

In one of its most frequent meanings, acceleration refers to strategies that may be oriented to students in vulnerable sectors with overage or off the educational system (AEWG, 2017; Mancebo and Vaillant, 2022). Within this meaning, the concept “acceleration” describes programs designed so that students behind may complete elementary education and catch up with basic learnings and therefore, move forward faster (Baxter and Bethke, 2009).

A second definition refers to a multidimensional and multisensory approach that places the student at the center of the learning experience and incorporates lessons from psychology and neuroscience to educational practices (Näslund-Hadley, 2023). From this perspective, the acceleration is not trying to concentrate the content of two school cycles into one, rather it is trying to center the attention on skills and fundamental concepts that may prepare the students for more specific content acquisition in their grade (TNTP, 2021). Regarding its more sophisticated versions, acceleration entails an advanced education and the teacher’s deep knowledge of the syllabus to add innovations to their educational practice.

On the hereby release, we adopted a definition of acceleration that approaches the one Damani (2020) suggested, which covers all those “programs that seek to accelerate education, or to help students that are left behind reach the grade level that would be appropriate to their age.” It is similar to the meaning that was recently adopted by the World Bank, which defines acceleration as “wide efforts to ensure each student absorbs the knowledge and essential skills as effectively and efficiently as possible” (World Bank, 2023).
Accelerated learning goes beyond traditional remediation because it is oriented to ease future learning instead of fulfilling curricular standards. It also entails placing the student at the center of the experience, elevating the expectations of their learning capabilities, and concentrating on developing fundamental skills (Figure 2.2).

**Figure 2.2** Common elements to accelerate learning

**3 common elements to different learning acceleration approaches**

- **Learner-centered**
  The student is the focal point of the learning experience.

- **Emphasis on skills development**
  Offer focused support on fundamental concepts and skills that allow students to access grade-appropriate material.

- **High expectations about the ability to learn**
  Assume that all students have the capacity to learn and seek to instill confidence in their ability to succeed.

The temporary school shutdowns during the pandemic broaden the need and urgency to focus the attention on foundational learning. A great response is necessary to fulfill the needs of a great part of the student population, particularly the most vulnerable ones, those who had already accumulated important gaps and who were affected by school shutdowns. From this perspective, accelerating also means minimizing exclusion and reducing inequity. By making those with the worst results improve the quickest, this could ease the simultaneous achievement of substantial improvements, greater inclusion (understood as a bigger proportion of students who reach basic learning standards), and less inequalities (individuals’ performance should not depend on their family or school context). Figure 2.3 shows the improvement on learning within vulnerable students who experience a learning acceleration program and the gap reduction in relation to non-vulnerable students.

**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.
The accelerating learning programs may adopt different forms that vary according to the content used and the context in which it is implemented. Such variety represents both opportunities and challenges.

- The opportunity is sustained on the flexibility to adapt plans to the needs and available resources.

- The challenge is to find within the variety of possible plans the most effective one, verify whether the necessary conditions occur to ensure success, and determine the optimal structure that guarantees all educational policy efforts are translated into greater learning levels equally distributed.

The acceleration tools vary inside and out of school institutions:

- When the tools are carried out of the school’s premises, it is possible to extend the formal education time with additional hours, adapting teachers’ educational practices, or developing onsite complementary support mechanisms.

- The alternatives that involve leaving the classroom include remote tutoring (in person or remote, with or without internet access), or using specific software that does not require direct intermediation by a teacher or tutor.
2.3 Why focus on remote tutoring?

Essentially, because it works. As Susanna Loeb (2023), an educational politics professor from Stanford University, said, “tutoring as a form of learning acceleration is backed up by a large amount of literature. The results for other types of interventions are not as strong.”

An entire series of systematic reviews performed over the past years to evaluate the impact various interventions caused suggests tutoring is effective for improving educational achievement, especially within vulnerable students. Additionally, several case studies around the world provide positive results regarding efficiency. Finally, evidence shows that tutoring helps reduce educational inequalities.

However, that the evidence on the effectiveness is conclusive does not clear a series of questions on tutoring: are they cost-effective? Meaning, are they the cheapest way of obtaining these positive results? Furthermore, if that is the case, what aspects or elements contribute to such effectiveness?

What is tutoring? According to the Education Resources Information Center (ERIC) from the United States Education Science Institute, tutoring is the “instruction given to a student, or a small group of students, through the direct interaction with a professional professor, or a classmate or other person with the appropriate education or experience” (ERIC, 2021). Another definition expresses that it is, “the process through which one person with experience handling a dexterity or skill orients another with less experience to learn such dexterity or skill” (Rincón Gallardo, 2013).

There are different types of tutoring. Some rely on school during specific hours. Others have taken place outside the school schedule. They can be directed by professors, volunteers, or even students from higher grades. Generally speaking, they have been conducted in person, although there is the remote option.
In this publication, we focus on remote tutoring, meaning those types of learning experiences where the tutor and tutee are not physically in the same space. This is based on strengthening foundational skills with customized follow-up and that are adapted to each student’s specific needs. We also focus on using accessible and low-cost technology as a complementary solution that is cost-effective and potentially scalable to leverage learning acceleration in Latin America and the Caribbean. Next, we analyze a series of conducive elements to learning that may serve as the basis for designing national tutoring programs (NTPs) to accelerate learning (Figure 2.4). Even if many of these elements constitute general principles of a good teaching, conducting these types of personalized interventions within the educational system may be complex due to the lack of professional development, integral policies for teachers, overcrowded classroom contexts, or the lack of time and space to satisfy each student’s individual needs.

The remote tutoring model’s agility allows attending to such needs in addition to what occurs in the classroom. Moreover, it is achieved through a relatively economic intervention that is easily adaptable and flexible, that does not require specialized staff, and that could generate a demonstrating effect on educational systems that decide to adopt it.

Figure 2.4 Elements conducive to learning in remote tutoring programs

Source: own elaboration.
2.3.1 Targeting to combat inequalities

A first element for a proposal for learning recovery or acceleration through remote tutoring would be targeting; meaning, the need for providing complementary alternatives to those students who require it the most. The objective must be simple but ambitious: achieving a universal minimum fundamental learning on reading and mathematics to be key to access new concepts and superior knowledge. The importance of this element resides in intervening on time to reinforce foundational learning and to combat the gap to protect the educational trajectory. That is, to ensure a strong basis as a preventive measure to fight against dropouts in the medium and long term (Gortazar et al., 2022).

Building complementary systems to reinforce learning involves investing and moving additional resources. These types of programs’ agility allows defining the targeting criteria based on the needs and established preferences of each educational system framework. Remote tutoring can intervene in a timely manner to face the specific support needs the students present at different moments. Particularly, in the case of unfavored sectors, tutoring may constitute a targeting policy that brings greater learning opportunities to students who usually have less access to complementary support and who otherwise are exposed to an increasingly growing gap and eventually to a system that pushes them to exclusion and early school dropout. Besides, as shown in summarized scientific evidence in Chapters 3 and 4, evidence shows the effect of these types of interventions is greater for socio-economically disadvantaged students.

Focusing on the most disadvantaged students makes sense from an inclusion perspective to contribute to the concept that all students learn foundational skills that allow them to complete their basic education and improve their potential employment inclusion. It also makes economic sense: Hanushek and Woessman (2010) show the enormous economic benefit that may arise from elevating the average grades in countries with the PISA test that focuses on students with low performance (2010). Last, there is evidence, at least in Latin American countries, that countries that have experienced the most improvement were the ones that placed the students most left behind to lead these improvements and which showed a greater growth rate on their performance (PISA in Focus, 2015).
2.3.2 Complementary solutions in close coordination with the education system

Even though remote tutoring is an additional opportunity to the traditional ones provided by the education systems for foundational learning consolidation and socioemotional reinforcement, these are not parallel or disassociated systems from regular operations conducted at school. In contrast, a learning acceleration system on a large scale would be successful to the extent that it is integrated into each school community and the educational authorities articulate it. Tutoring programs should be handled as a complementary element to the school process and as a support system for teachers, families, and students.

Only by involving and empowering school communities—meaning, principals, teachers, and caregivers—can the alternative teaching formats and models implementation be ensured beyond the necessary coordination with the national authorities and education ministries. The power of these complementary solutions resides in reinforcing the learning processes that happen in the classroom and providing the students with a sense of academic achievement that may increase their motivation (especially intrinsic), which possibly, they may never experience in the context of a large and diverse classroom as the one found in most of the region’s classrooms.

Teachers and principals’ participation must happen starting with the designing phase, and it is fundamental to identify and channel students who can benefit the most from this type of intervention. As discussed below, one of the tutoring purposes is to increase students’ self-confidence and self-esteem, that is, to focus on both the academic and emotional aspects of the learning process.
2.3.3 Tutor relationship

Tutoring stands out by a “basic nucleus,” which in the literature is known as “tutor relationship,” defined as, “the encounter of who wishes to learn a specific competency with whom possesses such competency and provides with the means so that the other may assimilate. This guardian relationship (...) leads to quality learnings and satisfaction in teachers” (Cámara, 2008).

There are three fundamental dimensions stated on the guardian relationship to ensure significant learning (Figure 2.5).

1. The importance of emotions.

2. The possibility of customizing and adapting teaching methods to each student’s specific needs.

3. The feedback involved in this relationship.

Due to the emotional factor and the teaching process personalization, tutoring involves an interaction that invites students to become active and constructive observants (Chi et al., 2008). This interaction also promotes fundamental linguistic and communication competencies for teaching, particularly through dialogue creation and building knowledge in a thoughtful manner, using all the questions and answers to make inferences (Roscoe and Chi, 2008). Feedback, both positive and negative, works as a main element on the guardian relationship (Brumernhenrich and Jucks, 2013). It can also promote deep learning and metacognition, meaning not only learning fundamental concepts but also strategies that empower the achievement of each individual case in a thoughtful fashion through the dialogue between student and tutor.

To make all this possible, it is essential that tutors are well prepared and selected. They must have skills that allow them to perform three key activities:

1. perform diagnostic evaluations,

2. implement new pedagogic strategies to improve teaching effectiveness, and

3. support students with their self-esteem and emotional well-being.
Figure 2.5 Elements conducive to learning in remote tutoring programs

Without setting clear learning objectives, there is a danger that tutor teams will lose direction in their work.

To design a successful high-impact program, it is essential to establish explicit objectives for each initiative, for example, accelerating learning on students who are more behind, attracting back those who dropped out of school, or improving all the students’ performance on priority and specific areas such as reading and mathematics.

If there are no clear learning objectives established, the tutors’ teams may lose focus of their work. It is also important to provide precise, easy-to-follow instructions for those tutors whose preparation or experience may be less than those who teach in classrooms. Last, in an advanced and mature model, it is necessary to find communication ways and mutual learning experiences among tutors and classroom teachers.

Source: own elaboration based on Hevia (2023).
2.3.4 Learning personalization

A characteristic element of tutoring is the possibility of an individual education and the efficient learning of each student. Far from the standardization the classroom teaching requires, a tutor relationship involves knowing each student well and knowing their exact needs. This is why it is recommended that tutors have previous knowledge and a diagnosis of the student.¹³

Tutoring spaces should be based on acknowledging the diversity of learning trajectories (Hevia et al., 2022) to guarantee a customized education where students can be and feel respected in their differences and needs, and where they can progress at their own rhythm and level. This will allow them to become empowered and active subjects, recognized by peers and professors, which will eventually give them a new meaning to their learning journeys.

Tutoring and accelerated learning spaces are not experiences that aggravate the individual. In contrast, they enable the student to develop a sense of belonging in their connection with their tutor and the learning experience with their peers. The student becomes involved with the tutor in a union and space where it is ideal to accept each other mutually as a “legitimate other” through coexistence and co-emotion (Dávila and Maturana, 2009). In this sense, these ties become facilitators and learning enablers, but they also contribute to having a more favorable attitude toward school and emotional well-being for all students (Hevia et al., 2022, Zoido et al., 2022).
2.3.5 Strengthening and promoting emotional and affective dimension of learning

One of the key points of tutoring, besides academic support, is emotional support. A tutor provides a constant presence and supportive environment that can be particularly important for students who feel discouraged or unmotivated in their academic situation.

The active and decisive role of emotions during the learning process is a widely established concept (Bransford et al., 2000), and the core element in the tutor relationship is precisely the relation generated between the tutor and tutee (Cámara, 2010; White et al., 2021). Tutoring entails developing a personal relationship, which in time establishes a caring link between those involved. This link is particularly powerful when there is mutual learning recognition and relations are more horizontal, as the tutor supports the student; on many occasions, the latter becomes a tutor for others (Cámara, 2010). In remote telephone tutoring, where the connection is built through voice (often without meeting in person), creating an emotional relationship is a challenge highlighted by tutors and tutees (Hevia et al., 2023). Nonetheless, establishing a relationship is not only possible, but actually common in cases applying this remote modality in Latin America and other regions of the world (Szekely et al., 2022).

Most of the students who participate in tutoring have seen their self-perceptions affected by the “failure” experiences they have lived in the educational system, such as grade repetition or exclusion. Such experiences not only limit the learning achievement, but also impact students’ self-image, affecting the value they give themselves as well as their intellectual and social skills (Alvarado et al., 2014).

Therefore, tutoring can allow students to change their self-image and empower them to find sense in their education and comprehend that learning is an experience they can live in first person. Having said that, the activity and commitment of those who learn are essential, as the learning that has a real influence on a person’s behavior is achieved by the individual (Rogers and Freiberg, 1994).
2.3.6 Formative evaluation

Formative evaluation must be seen as an opportunity for learning instead of a simple grade or credit (Andrade and Heritage, 2017), as it is crucial for improving teaching and learning. Evaluation provides information that allows a teacher to detect factors that complicate or favor the learning process, and, from there, implement improvements and corrections (Black and Wiliam, 2009).

Formative evaluation enhances tutoring by drawing on pedagogy techniques based on teaching at the appropriate level. We define these types of pedagogies in Box 2.2. Diagnosis and educational achievement monitoring make it possible to identify the correct level for each student through easy application and interpretation of formative evaluations. Thus, tutoring support begins at the level required by each individual, and not at the average or expected one for their grade or age. This enables them to build learning from the base and to increase their motivation and other fundamental executive functions for educational achievement (Hevia et al., 2022a).
Box 2.2

**Teaching at the Right Level**

“Teaching at the Right Level” (TaRL) is an approach that stands out for demonstrating positive results in learning with evidence.

TaRL’s main purpose is to increase fundamental learning in reading and mathematics. Under this approach, student learning groups are formed of the same or different age groups, and adapted activities are offered to all the levels. Each student participates in collective activities adapted to their learning level, accompanied by a teacher or tutor.

These programs’ targeting and customization are more efficient when facing the loss of learning for students left behind, and therefore, they also benefit peers. When aiming for up-to-date basic learning, TaRL reduces education gaps within classrooms (Angrist et al., 2020; Banerji and Chavan, 2016). Ordinarily, TaRL is implemented in short-duration learning camps, with three distinctive characteristics:

1. Students are assigned to groups depending on their competency levels, especially in reading, writing, and mathematics. Categorization is achieved through diagnostic evaluations that allow students to be organized by their actual learning level, instead of the expected one.

2. Various collective learning activities are designed for each level.

3. Evaluations are frequent and include a final one of the progress made.

TaRL’s approach is part of learning acceleration programs and is usually oriented to generate educational equity processes, reducing the disproportional effects of the pandemic among the poor and excluded. Recent research on TaRL-based programs proves their ability to shorten gaps related to gender, socio-economic level, rural–urban discrepancies, or disability circumstance, which characterize educational systems in many countries (Hevia, Vergara-Lope, et al., 2022b; Hevia and Vergara-Lope, 2022b).

This approach has proven to be effective to recover and accelerate learning, and it is an appropriate option to face the educational emergency resulting from school shutdowns 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); it is highly cost-effective (Angrist et al., 2020 and joint analysis at the Abdul Latif Jameel Poverty Action Lab [J-PAL] and Pratham [Banerji and Chavan, 2016]).

In Latin America and the Caribbean, the evidence was, until recently, rare. In 2018, summer programs that applied the TaRL model were evaluated, and some effects were detected that ranged from 0.43 standard deviations in reading to 0.56 in mathematics (Hevia et al., 2021; Hevia et al., 2022a; Hevia and Vergara-Lope, 2022b). In Chapter 4, new evidence is shown for various interventions using this approach in the region.

2.3.7 Involving families

Families’ roles are usually set aside in educational considerations, but they are essential to incorporate into this discussion. In many cases of school absenteeism, dropout, or falling behind, the student’s environment has a direct impact on their performance and decision-making, including continuity (or a lack thereof) in the system. Counting on adults and a family that supports the connection between the student and the educational processes is fundamental to ensure students’ right to education (Alvarado et al., 2014).

To be successful, tutoring should include families, which helps the student find logic in their learning process and provides them external support to continue in the system.
To involve families, it is key to develop informative strategies to gather information on the following:

- Students’ actual performance and learning capacity, including the necessary support
- Progress and the most effective learning strategies for each student
- The benefits of continuing and completing studies
- Possible educational and employment pathways

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’.

This support helps strengthen students’ adhesion to the school process and reinforce their self-perception as learners capable of facing challenges and new situations and overcoming problems through effort and work. It also favors 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). This means tutoring can empower what is known as a growth mentality, not only in students, but also for their families and teachers.

### 2.3.8 Technology and cost-effectiveness

The experience described in this document proves tutoring can be carried out in an economic way, with or without incorporating high-end technology, as the approaches discussed are flexible and can be adapted to the context in which they are used. Tutoring uses tools that allow free-of-charge options for students and families and represent a low-cost investment in absolute and relative terms for the educational systems of the region (Hevia et.al, 2022, Zoido et.al, 2022).

During the pandemic, tutoring has adopted a remote modality and has been the subject of multiple studies due to its importance in the fight against the global educational emergency, being recommended as a necessary strategy to accelerate learning (Davidson and Woodward, 2021).18

Evidence emerging on the use of phone tutoring (as discussed in Chapter 3) is promising, suggesting positive effects on academic performance and reduced illiteracy in arithme-
tic (Angrist et al., 2022 and Chapter 3). These evaluations demonstrate that the affective relationship involved in the tutoring relationship is also evident through telephone communication.

In remote and difficult-to-access places, the use of resources such as phone calls, text messages, and voluntary tutors allows access for students with low connectivity (Zoido et al., 2022).

There is long-established evidence on the successful use of phone calls in the education field (Flinck, 1975). However, at the beginning of the 21st century, technological developments that required an internet connection replaced phone calls as a teaching-learning technique. Hence, a lot of educational options linked to school shutdowns during the pandemic were linked to internet platforms (messenger and videoconferencing) or a one-way medium (such as radio or television) (Hevia and Vergara-Lope, 2022a). The phone is no longer a source of efficient interaction and personalized communication among students and teachers.

In a learning-acceleration integral plan in low-connectivity contexts, the telephone is a possible channel to develop a tutor relationship, as it is a concrete way of including populations with less connectivity and enabling personalization and teaching adaptation to each student (Hevia et al., 2023).

In contexts with high connectivity, tutoring can be performed using technologies such as videoconferencing, which give the best results when combined with simultaneous actions (in direct connection with tutors and tutees) and asynchronous actions such as lessons and exercises students can solve on their own time (Johns and Mills, 2021). With the support of electronic games, these technologies can be effective to improve mathematical skills and general educational performance (Roschelle et al., 2020). Moreover, combining collaborative and individual work during tutoring can be more efficient with technological support (Olsen et al., 2017).

The positive effects of online and phone tutoring have not only been verified during the pandemic; there is relevant evidence including returns to onsite schooling (see Chapter 3) and moments before COVID-19 (De Smet et al., 2010). The accumulated evidence points to tutoring as an efficient tool to improve learning and students’ socioemotional well-being in contexts of high or low connectivity.
2.4 Accelerating learning through remote tutoring

The pandemic generated urgency to activate measures directed at students left behind. The shock to learning processes produced by school shutdowns and the uneven way the effects manifested left large cohorts with insufficient learning that need urgent attention. The huge urgency of the crisis also promoted objectives with quick results.

Accelerating learning is the most interesting option in this context, and it extends to students who have not necessarily been left out of the system or are experiencing a grade repetition circumstance or overage, but who still accumulate important gaps, probably aggravated by the general school shutdowns.

The tutoring processes used in most learning recovery programs are valuable tools to prevent gaps and school dropout by providing students the academic and emotional support needed to succeed in their education. Tutoring enables a personalized learning environment where students may ask questions and express immediate feedback about their questions and concerns. This helps them feel safer and more motivated to learn, which can improve their performance and reduce dropout probability.

Tutoring has traditionally been carried out face to face. The pandemic “virtualized” tutoring due to obvious need, and physical presence became unnecessary to get results. The outcome is that remote tutoring has become an alternative to channel programs that may speed up learning processes for those left behind, and it can be provided through various technologies, including phone calls.
It is also possible that acceleration is not limited to reaching the expected theoretical level by onsite education. The need for recovering learning represents an optimal level at which students transit the educational levels they must acquire. However, it is feasible to accelerate learning not only to recover, but also to go further, especially in countries such as those in 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 defining educational policies that develop students’ potential to increase their learning levels and reduce inequalities has become a main goal for countries in Latin America and the Caribbean. Learning acceleration through remote tutoring with low technological requirements offers an opportunity to deal with such a purpose. This opportunity requires empirical validation on which to base the recommendation. As we will see in Chapter 3, the emerging evidence is auspicious.
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

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**Spain**
A Successful Experience of Remote Tutoring
Lucas Gortázar, Claudia Hupkau, Antonio Roldán

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**Italy**
Tutoring Online Program (TOP): A Successful Global Experience
Michela Carlana, Gaia Gaudenzi, Eliana La Ferrara

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

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What did we learn?

- The pandemic made remote education mandatory, promoting the appearance of innovative programs to transcend the crisis.

- Remote tutoring has become a cost-effective tool to encourage learning in various contexts, applying tutors’ profiles and adapting technology to the particularities of each case.

- Scientific studies point out the importance of the relationship created between the tutor and tutee thanks to personalized instruction, context adaptation, and each individual student’s needs.

- This strategy is even more relevant for vulnerable students, who may feel neglected within the traditional educational system and need additional care to experience (maybe for the first time) an academic achievement that promotes trust in themselves.

- Beyond the pandemic, the global evidence suggests that remote tutoring represents an efficient solution to accelerate learning in diverse educational situations and enables students to face structural challenges such as inequalities in educational performance.
The COVID-19 health crisis and the resulting school shutdowns deeply affected the educational process of millions of students around the world. The learning losses were deep and distributed unevenly; for instance, depending on the socio-economic and cultural level of their homes. Additionally, the pandemic deteriorated the socioemotional well-being of school-age children. Lastly, the lack of interactions with other students and teachers lessened opportunities to socialize and, consequently, the ability to develop socioemotional skills outside the family context. As stated in Chapter 1, regardless of onsite school returns after the pandemic, the effects of the shutdowns persist for a majority of student populations in terms of academic and socioemotional capacities.

In many Latin American and Caribbean countries, school shutdowns were a shock for the educational systems that were also affected by structural problems such as low and unequal levels of learning. As explained in Chapter 2, the pandemic aggravated the need to accelerate learning and to search for tools targeting students with gaps in their education.

Among the tools countries have adopted to mitigate the negative effects of shutdowns and related inequalities are remote tutoring programs.20 As discussed in Chapter 2, this learning acceleration modality offers flexibility in educational offerings at a relatively economic implementation cost, which eases its use for a great number of young students, potentially including remote areas where it is more difficult to provide onsite tutoring. These remote tutoring characteristics are particularly important in unfavored populations with difficult access and countries that need to service these populations in a cost-effective fashion.

The first remote tutoring programs during the pandemic were based on onsite tutoring’s success in generating positive educational impacts (Nickow et al., 2020). In remote tutoring, evidence emerged from a number of incipient programs that were analyzed through strict impact evaluation methods, 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 no previous specialization in education), and the applied tech-
nology (videoconference, videocall, voice calls with mobile phones). These strategies were also successfully applied in very different contexts.

In this chapter, we discuss the main lessons learned and the characteristics of three interventions performed through remote tutoring whose capacity to promote improvements on the learning process was strictly 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, we will also point out examples of National Tutoring Programs implemented in countries, including a description of their costs and features (Box 3.1-3.6).
3.1 Lessons learned, potential and challenges

Experiences outside the region have generated a series of lessons on dynamics, start-ups, and effects on remote tutoring. In this section, we will first analyze the lessons learned in terms of educational politics. Next, we will examine the conclusions reached from a practical point of view in the remote tutoring area. Finally, we will present an analysis of emerging challenges and opportunities concerning this matter.

3.1.1 Orientations for education policies

In the midst of COVID-19 challenges, remote tutoring programs have proven their potential to transform learning processes for various populations and increase the quality and inclusivity of public educational services at a systemic level.

The following experiences prove these programs have emerged as a promising solution to approach students’ learning gaps and socioemotional needs, with the additional advantage that their cost-effectiveness allows them to be escalated and directed to students who are unfavored, have special needs, or have difficulty with access. Beyond an emergency solution, remote tutoring is a viable option to approach structural problems or particularly challenging situations.

The future possibilities for remote tutoring are quite promising. Their inclusion in a publicly financed national education program could widen the use of such educational practices and include students from homes with limited resources who cannot afford private tutoring. This could enable educational authorities to play an important role in regulations and as quality advocates, potentially enhancing private offerings.

It is important to mention that remote tutoring complements a school’s educational environment, meaning it is not a substitute for classroom work or onsite tutoring. Adopting and scaling remote tutoring within the educational system may have three highly beneficial consequences:
An especially relevant impact for low-income or left-behind students, which would reverse the spread of preexisting educational gaps caused by the pandemic.

Benefits for important parts of the student population, at least in specific settings.

An easy start-up solution in a context with budget and geographical restrictions.

3.1.2 Lessons on program application in practice

Individual tutoring or small groups?

Although most tutoring sessions are personalized and involve a single student, the case of Menttores in Spain shows promising results with sessions aimed at groups of two students, especially when using more sophisticated technology. It is also possible that peer tutoring boosts collaboration among students and, therefore, further stimulates the learning process, besides reducing costs per student. However, depersonalized tutoring may scatter tutees’ attention and dissolve the effects. Determining the optimal composition for tutoring is a high-interest exercise for future programs’ design.
What should be the tutor’s profile?

The possibility of using university students as volunteers and appealing to their social commitment reduces tutoring cost on a large scale and can mitigate the lack of highly qualified teachers that characterizes some countries. Moreover, this tutoring experience brings benefits for the tutors. For instance, for tutors studying in teaching programs, tutoring is a direct opportunity to obtain relevant experience for their future as educators. For students of psychology and other disciplines, even though tutoring does not necessarily lead to a career in education, it may offer them transferable skills and applicable practical knowledge in various professional surroundings. This professional practice can be recognized by post-junior high education institutions and become an incentive for tutoring. Lastly, it can also result in valuable experiences in the private tutoring growing market, which demands well-prepared and experienced tutors in onsite and online modalities.

Nonetheless, such an alternative is not possible in all cases, as shown in Spain. In fact, one sustainable long-term tutoring offering increases demand for tutors\[1\]. Additionally, considering a volunteering program modality, there is evidence that escalation and sustainability may entail an important challenge (Nickow et al., 2020; White et al., 2021).

The traditional lack of qualified teachers in mathematics and sciences seems to have increased in recent years (Santiago, 2002), which creates incentives to find innovative answers but also entails an escalation challenge for remote tutoring programs. A program that addresses the educational needs of millions of students requires a tutor offering that has not yet been identified and that will eventually create a new employment market. Handling this problem will demand strategies to increase tutor offerings.

There is also a growing demand for private tutoring, which may increase the difficulties in finding appropriate tutors for public programs and generating a new source of heterogeneity and quality provision for education. In the face of an insufficient number of good tutors, remote tutoring programs on a large scale may reproduce similar inequalities to those
observed on the teacher’s assignment among students from different socio-economical and cultural levels. However, public remote tutoring can also offer an interesting market for teachers by presenting the possibility of increasing their experience and qualifications and, therefore, their service value in the private sector.

3.1.3 Challenges and opportunities

1. Tutors’ motivation and continuance

Remote tutoring programs face similar challenges when it comes to motivating and keeping tutors, regardless of them being university student volunteers or professional teachers. Some tutors may find themselves facing hardships related to having to work with unmotivated colleagues or establishing a trusting relationship with their students. This may lead to high rates of tutor rotation, which damage a program’s efficiency by interrupting the progress linked to the experience students can accumulate with repetition.

To address this problem, these initiatives have applied measures such as nonmonetary incentives to motivate tutors to participate and continue committing to the program until its completion. In Italy’s case, tutors who successfully complete the program are awarded with a joint certificate by Bocconi University and Harvard. However, establishing the optimal level of incentives is a challenge that requires further investigation, as there is the risk of replacing the intrinsic motivation for tutors to participate.


These are crucial elements for success; a student attending tutoring requires access to a device (with internet access on some occasions) and the skills to use it competently. Nonetheless, some families may have problems acquiring a device due to financial limitations or a lack of digital literacy necessary to enroll in and maintain the
commitment to the program. Strategic associations with NGOs or governmental programs can be vital to provide access to devices and digital literacy. Additionally, experiences in Botswana, India, Nepal, Kenya, the Philippines, and Uganda show that the internet can be replaced with phone calls.

In any case, there is still the matter of knowing how the adaptability of technological requirements may increase tutors’ skills demand, which would also require more highly qualified teachers.

3. Tutor–student relationship.

The value of remote tutoring compared to other learning formats, such as computer assisted learning (CAL), lies in preserving the tutor–student relationship at a low cost. The means used to maintain this relationship is simply an intermediary (device). The personalized interaction and direct support offered during remote tutoring not only reinforce the learning experience, but also allows more efficient adaptation and feedback according to each student’s needs and pace. The three programs presented in this chapter show these differences in the intermediary, but the key focus is the tutor–student relationship, especially in TOP and Menttores, where they outline the tutors’ training.

4. Tutor supply for specific subjects.

Programs in Italy and Spain had difficulties recruiting the appropriate number of tutors skilled in mathematics, which posed a serious challenge, as most of the students require help in this subject. In Italy, the problem was solved by turning to university students. In Spain, this was not possible, so they had to employ professional teachers.

There are families who may have trouble acquiring a device due to financial constraints or lack of the digital literacy necessary to enroll and maintain engagement in the program.
5. Partnership with nonprofit organizations.

Expanding remote tutoring programs to other regions and countries will generate additional logistics costs. To address this challenge, it is possible to collaborate with civil society organizations, NGOs and international organizations that have experience in educational programs in unfavorable contexts. By using their knowledge and resources, a remote tutoring program can reach more students in need and guarantee they receive the necessary support.


Another potential limitation is that students might have been more open to participate in remote tutoring after school toward the end of the pandemic. If this were the case, such an effect would dissolve in the following years. This question will clear as the post-pandemic programs continue being rigorously evaluated.

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

Schools are the perfect candidates to provide free tutoring, regardless of whether this happens while students are at school or home. It is important that tutoring expenses for management and administration are not high, and it is fundamental to consider them a complement to the traditional teaching activity. It is also key to establish convincingly that the benefits of students’ personalized support overcome the coordination cost of maintaining a connection with their tutors.
Educational strategies for students are increasingly being supported through financing nationwide tutoring programs. The loss of learning caused by long-term structural educational problems, exacerbated by school shutdowns due to COVID-19, has prompted governments and institutions to invest millions in interventions based on evidence to recover all the learning loss, with tutoring programs emerging as an efficient solution.

Governments that have incorporated tutoring into their general plans for learning recovery have followed various strategies. Some, such as the US and Spain, have directed their programs to specific cities and communities. Others, such as England and Chile, have developed national plans for tutoring.

A latent challenge is sustainable financing, as are recruiting and training tutors. This is even more critical in a context where governmental help for schools is reduced. Therefore, it is imperative to design long-term financial strategies that ensure the continuity of these programs, guaranteeing their essential role in students’ educational journeys.

Throughout this chapter, we will present some examples of National Tutoring Programs in various countries, as well as their costs and characteristics.
3.2 Characteristics of remote tutoring programs

1. Menttores (Spain)

The Menttores\textsuperscript{25} program was launched in Spain after schools reopened, providing online tutoring with mathematics teachers to vulnerable students in junior high schools. It was an intense intervention in which approximately 200 students from seventh and eighth grades participated (junior highschool students from 12 to 15 years old); these students attended school in poor neighborhoods and had difficulties in mathematics (Figure 3.1). The program consisted of three 50-minute sessions per week for eight weeks.

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<thead>
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<th>Table 3.1 Differentiating characteristics of remote tutoring programs</th>
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<td><strong>Sample size:</strong></td>
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<td><strong>Number of students per tutor:</strong></td>
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<td><strong>Total number of tutors:</strong></td>
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<td><strong>Profile of the tutors:</strong></td>
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*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 launched one year after the beginning of the pandemic, when schools had already been reopened for months, which shows the complementary character of remote tutoring in parallel with the education provided by onsite schooling.

Besides the support given in mathematics, the program also focused on socioemotional skills, looking to enhance motivation, well-being, and work routines for students. The pedagogical approach stands out for its high expectations, individual support, and continuous feedback. An essential feature of Menttores was the strict tutor selection process and training. Tutors were qualified and paid mathematics professors who received training in key areas, such as creating strong bonds with students, motivation, lesson planning, learning verification, formative evaluations, mathematics academic content, and tutoring methodology.

The program was carried out by the Esade Center for Economic Policy (EsadeEcPol) in association with the NGO Em pieza por Educar (Start by Educating) (ExE), an expert on young teachers training in schools with vulnerable, low-income students in Madrid and Catalonia. The program’s impact evaluation was performed by Gortazar et al. (2023).

2. TOP (Italy)

TOP was created in Italy in 2020 to provide academic support to junior high school students who faced learning challenges during the pandemic. Since then, this program has escalated to involve 3,000 students, being implemented successfully every year including 2022.

The first TOP edition was during a five-week period from April-June 2020 serving 1,059 enrolled students, 530 of whom participated in tutoring. Depending on everyone’s needs, the tutors would meet their students once or twice per week in sessions that varied from three to six hours per week (Figure 3.1).
The TOP evaluation framework allowed continuous improvement based on trying different components and aspects that could help accelerate learning, as well as establishing the capacity of these interventions to spread to different contexts without losing their efficiency (known as scalability).

This program was designed to be implemented in various phases:

- School contact
- Family contact and participation confirmation
- Initial questions
- Defining the support needed by the student
- Recruiting tutors
- Training tutors

Since 2022, the program, including recruiting and managing tutors, has been external to Centro Italiano Aiuti all’Infanzia (CIAI), a local NGO with wide experience in projects addressing educational poverty. As part of the program, TOP provides complete training for tutors, which includes efficient teaching methods, commitment strategies with students, modules on the importance of child protection policy,\textsuperscript{26} and good practices to support students with learning disabilities.

Besides training, CIAI has also assumed responsibility for monitoring tutors’ performance, which entails regular check-ups to verify that students’ needs are being met and giving high-quality support. The program’s impact evaluation was performed 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 later (to assess its replicability and scalability) in India, Kenya, Nepal, Uganda, and the Philippines, with positive results. In these five countries, this study was implemented in collaboration with 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 (the Philippines).

This project offered eight weeks of tutoring in approximately 20-minute sessions focused on mathematics through phone calls and text messaging (Figure 3.1). The low technological demand in this initiative made it possible to assess the implementation of remote tutoring in areas with low connectivity without many technological requirements and in socio-economic contexts that lack guaranteed internet access. Angrist et al. (2023) evaluated this program in research on aleatory tests on a large scale, with over 16,000 students enrolled in the program.

3.3 The impact of the three programs

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

How to measure effects and learning

The same way temperature is measured in Celsius and Fahrenheit, and
distance in miles and kilometers, educational politics involve various
metrics to measure results.

One of the most common ones is the standard deviation, as it enables
a comparison between different policies. Additionally, a consolidated
method to evaluate the effects on educational policies is the RCT.

This method selects a group of students and divides them random-
ly into two subgroups with similar characteristics. One (treatment
group) gets a new teaching modality and the other (control group)
does not. Both get evaluated, for instance, on mathematic learning
before and after the intervention to detect possible effects on this
teaching and learning modality.

With this method, the use of standard deviations allows students
of one intervention to be compared with the results of other inter-
ventions or with the same ones implemented in other countries and
contexts. The standard deviation gives the opportunity to express
the difference between the treatment group and the control one in
terms of variability. The more elevated the positive value in standard
deviation, the better the intervention effect will be.

Now, how can we determine not only if an intervention has positive
or negative results, but also the magnitude of this effect? We need
a convention for this. Considering multiple education interventions,
Kraft (2020) considers that an effect is “low” if it is lower than 0.05
standard deviations, “half” if it is between 0.05 and 0.20 standard
deviations, and “high” if it surpasses 0.20 standard deviations (Figure
3.1). Evans and Yuan (2022) say the average effect on educational
mathematic interventions performed in low- and mid-income coun-
tries is 0.09 standard deviations.
Lastly, it is possible to interpret standard deviations using a relatively intuitive standard to obtain a more concrete notion of its meaning. Thus, some experts try to express standard deviations in their equivalent learning terms expected in one school year as a type of “standard” to measure learning.

According to Angrist et al. (2020), one school year in a high-quality educational system (meaning educational systems with the best performance) translates to a learning equivalent of 0.8 standard deviations. Taking this as reference, we can express the results in school years (or months) for high-quality learning.

In summary, using standard deviations as a metric allows us to decide whether an intervention, a change of strategy, or a new methodology are good decisions and whether an education intervention can really help students learn more. So, when we think in educational politics, we’re not only looking to establish if it works, but how well it works compared to other policies.
3.3.1 Academic performance

In all scenarios, the results were conclusively positive and allowed us to conclude that remote tutoring offers similar effects among them at a substantially lower cost than those that require an onsite presence (see Chapter 2).

These short and intensive programs of less than two months of implementation generated impacts equivalent to over 30% of learning generated in a school year at a high-quality educational system. These are considered high impacts on learning according to the education academic references (Box 3.2).
**Figure 3.2 Costs, impact and duration of remote tutoring**

### Spain

**Duration and frequency of the program:**
Intensive eight-week program with three 50-minute meetings per week

**Cost per student:** 300 euros per student

**Cost of tutor training:** 200 euros per tutor

**Impact on S.D.:** 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

### 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:** 50 euros per child

**Cost of tutor training:** Approximately 40 euros per tutor

**Impact on S.D.:** 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 repetitions 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:** US$12 per child on average

**Impact on S.D.:** 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:

- There was an additional impact on final grades in mathematics for those who received tutoring. This impact is equivalent to what would have been approximately six months of extra learning in schooling conditions without the remote tutoring complement.  

- There was an increase of approximately 32% of passing probabilities on the subject.

- Performance improvement on a standardized mathematics test was detected. The improvement was 17%, meaning 0.26 standard deviations, equivalent to approximately three months of learning (Figure 3.2).

- There was a reduction in grade repetition probability in the school year of 9.4 percentual points, which equals a 78% decrease compared to the control group, whose grade repetition rate was 12%.

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

- There was an important statistical increase of 9% in the number of correct answers on the applied standardized test, which corresponds to a considerable increase in students’ performance that equals 0.26 standard deviations (Figure 3.2).

- The effects were positive in all academic areas, especially in mathematics: the positive results obtained for the 2020 implementation, during school shut down, confirmed that in 2022, when the pandemic was over, students were able to interact with a regular manner with their teachers and classmates.

- Students who received tutoring mainly through smartphones also highly improved their academic performance in comparison to those who had better quality devices, such as tablets and laptops. These are noticeable effects, especially when considering the high probability of students who belong to the more socio-economically vul-
nerable group and who experience more difficulties and disadvantages. Such findings offer hope in online tutoring that can be a useful tool, even in low-income contexts. The cases of India, Nepal, Jenia, the Philippines, and Uganda with ConnectEd confirm the possibility of generating educational impact with remote tutoring using basic phone devices, although the program goes beyond, as communication is only via phone, with no interactions that require an internet connection.

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

- Positively consistent results were found, with an average effect of 0.33 standard deviations on basic mathematics learning (Figure 3.2), regardless of the countries’ specific circumstances. This translated into positive learning progress in absolute terms. The benefits were greater in Uganda, where a significant improvement was detected in the division skills of students from fourth grade, and in the Philippines—the countries that had experienced the longest school shutdowns.

- In general, countries experienced a 65% increase in the number of students capable of dividing (Angrist et al., 2023). These high results are achieved despite the tutors being heterogeneous, and they were members of NGOs and public school teachers.

- The analysis also reveals that text messages delivered independently to phone tutoring generated less profits in learning terms, even despite the positive effect in Uganda, and, on a minor scale, in the Philippines. This suggests that text messaging on its own would not be enough to improve learning processes in some of the mid- and low-income surroundings.
All this evidence reveals that phone tutoring is a robust and efficient option to achieve a balance between two key elements:

1. **Effectiveness:** having enough intensity to offer a sustainable impact on various contexts.

2. **Cost-effective:** being economic and potentially scalable.

The studies related to ConnectEd also estimate until what point an appropriate instruction was provided to each student’s needs, skills, and situation, which is a key metric to understand the fidelity of the implementation. If we take as a measure the percentage of children who were effectively at their appropriate level of learning, it increased from around 40% in the original project in Botswana to over 80% in Uganda (Figure 3.3). This indicates that the ConnectEd implementation improved over time, which is a bit different compared to previous literature, where the replication results are usually less solid than the initial proof-of-concept study.
The fact that the results were positive using phone calls without the need for an internet connection is particularly promising, and, in addition, it shows the importance of starting up all the programs that adjust to each country’s context. The results on the five countries using this system were consistent, very favorable, and independent to their specific characteristics.

It is noticeable that the impacts were greater in those countries that experienced the longest shutdowns (Uganda and the Philippines), where great profits were translated into learning in absolute terms. In Uganda, for instance, less than 20% of fourth-grade students could divide at the beginning of the study, whereas almost 50% had achieved it by the end. In this case, students achieved progresses that widely surpassed the academic recovery by completely reversing any learning loss that school shutdowns could have generated (Angrist et al., 2023).
Box 3.3

National Mentorship Programs: United States of America

The “National Partnership for Student Success” (NPSS) program is part of the American Rescue Plan (ARP), which holds a funding of approximately $122,000 million dollars.

Objective: to reopen schools safely, avoiding COVID-19 expansion, in order to fight the loss of education and to cover mental health as well as other students’ necessities.

Reach: NPSS benefits more than 5,000 school districts with mentorships, summer programs, and extracurricular activities.

Goal: to have 250,000 adults take over tutoring, mentoring, and coaching roles within the next three years in order to help with the transition to postsecondary education. This will also increase the development of educator training by allowing more citizens to gain experience within schools and to pursue teaching and student support roles.

Format: online and in person, involving schools, nonprofit organizations, AmeriCorps, and volunteers.

Prioritization: concentrate on students within K-12 (6 to 18 years old), with focused subjects and topics depending on priorities, the vision, and objectives of each school district.
3.3.2 Beyond academic performance

In the case of Italy and Spain, nonacademic aspects from the programs were evaluated, and additional evidence was found suggesting that remote tutoring increases students’ aspirations.

In Spain, this evaluation showed that participants from the program were 13.6% more likely to state what they would want to study after mandatory education. In Italy, students who received mentorship along with their parents were also more prone to talk about enrolling in a university in the future.44

In Spain, there was no impact at all relating to other noncognitive dimensions. In particular, the program does not seem to have affected students’ perception relating to their math skills or their interest in such subjects, nor did it affect their confidence level while discussing how their effort could get them better academic results, a concept called “locus of control,” as well as their persistence or general well-being.

On the reverse side, Italy’s results were broader and covered different measures of wellness and capabilities. The evaluation detected a statistically significant improvement regarding students’ socioemotional skills45 and an effect—although statistically it is not significant—in the direction of an increase in students’ perseverance while facing obstacles.46

However, students who received tutoring did demonstrate a greater appreciation of how their efforts linked to their results (which means a stronger locus of control) than those who did not, maybe because experiencing positive academic results in the program allowed them to realize that success in school is not just a matter of luck. In Spain, students with tutoring also demonstrated 11.6 percentage points more in the probability of declaring they tried so hard (always or almost always), which corresponds to an increase of the 21.5% compared to the group’s average that did not receive remote tutoring.

It is also possible to consider that the program may have helped students to handle psychological challenges resulting from the pandemic and isolation. In Italy, students who received mentorships presented a decrease in depressive symptoms and an increase in happiness levels. This suggests that TOP may have had a positive impact, consistent among boys and girls, and students with and without learning dis-
orders, while addressing mental health problems related to the pandemic and the difficult situation of a long confinement, which significantly limited their social interaction. A remarkable tendency obtained within Italy’s data, although on a qualitative level, is that TOP had a greater effect in students whose parents worked outside the house, which could be due to reduced help from their parents with reference to schoolwork and minimal supervision during remote learning.

However, impacts in aspirations, socioemotional skills, and wellness rates seem to be confined to the extreme context of schools that shut down. In 2022, after resuming presence-based modality, the estimate effects on these noncognitive dimensions were not exactly meaningful, beyond positive effects in academic performance. It is possible for remote mentorship to be robust over learning and that its positive effect over noncognitive capabilities is limited to extreme isolation situations.
3.4 Features of different implementations

3.4.1 Student selection process

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

All programs had socio-economic objectives, focusing on directing their services to students who needed them the most. In Spain and Italy, student selection was made in close collaboration with schools, where professors and principals identified the ones who needed these services the most. ConnectEd addressed the needs on a national level by carrying out their pilot projects in countries with significant educational gaps and the clear need for additional instruction in math. Despite differences in scale and approach, the three programs share the common objective of sharing additional support to students who need it the most, demonstrating an attention focused on educational equity.
1. Menttores

In Spain, the selection of participating schools took advantage of the extensive network of ExE\textsuperscript{47} with professors working in schools within the regions of Cataluña and Madrid. First, ExE contacted school principals and informed them about the program and its features, their target population, and the scientific evaluation that would be carried out from the program through a random controlled trial. There were no strict eligibility rules, and the task of identifying students with a higher need for math tutoring was given to the professors. Then, parents of those identified students were directed to an online registering form, including information showing that the program would be evaluated and that not every registered student would be finally selected.

2. TOP

Italy’s program was focused on middle school students (sixth to eighth grade) facing challenges at school, either because of their socio-economic status, language barriers (e.g., first-generation immigrants), or learning problems. Tutoring began in 2020, during the moment in which learning result data revealed a considerable decrease in performance (Figure 3.1). That was especially visible in the case of immigrant children, who received lower scores in math and reading compared to natives, a gap that grew in 2021 (Figure 3.2). The biggest discrepancy between natives and immigrants was found in reading, which shows the need for tutoring programs focused on language in countries such as Italy, where part of the integration process for 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

![Graph showing decline in learning outcomes](image)

*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

![Graph showing learning gaps](image)

*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 tutors’ training had a specific module about how to address this matter in tutoring sessions. To guarantee that these would get to those who needed them the most, the selection process involved the active participation of teachers, who were asked to classify students in order of priority—that is, choosing up to three per class whom they considered should be included in the program.

By working in close collaboration with schools, this initiative showed that tutoring services were integrated into a regular school syllabus and complemented teaching in classrooms. This way, in Italy, remote tutoring did not represent an additional burden for students but offered them specific support to improve their learning experience.

3. ConnectEd

The program conducted pilot projects in India, Kenya, Nepal, the Philippines, and Uganda, five countries with notorious learning gaps that showed low performance in math on the PISA international evaluations. An additional factor that reinforced the need for additional instruction in basic math is that India and the Philippines are among the countries with the worst score in this subject on PISA 2018 ranking.

Pilot programs were focused on the areas of greatest need, collaborating closely with local education ministries to identify focalization. In India, most of the mentorship recipients came from rural areas and extremely marginalized communities. In Uganda, the study was conducted in nine of the 135 districts of the country, including some of the most isolated rural areas.

Tests at the beginning of the pilot (base line) confirmed those gaps, by showing that only a small percentage of students were capable of making basic calculations. During school shutdowns, a few students in those countries were able to access remote education. For example, in Nepal, only 31% of students were able to maintain an interaction with their professors during those periods.
3.4.2 Technology used in remote tutoring

Tutoring was remote, although they differed in technology, platforms used, and cost. In Spain and Italy, they used platforms online that required internet access. In India, Kenya, Nepal, Uganda, and the Philippines, they used cellphone calls to reduce costs and maximize coverage. In this second operation, homes enrolled in the program received, once a week, a package of interventions, including a one-way text message with challenges to practice math, followed by a 20-minute phone tutoring session. The tutoring sessions were performed between tutors and students via phone calls, using the speakerphone to encourage caregivers to listen and offer support. In this way, phone calls resembled the experience and relationship establishment of individual tutoring, using a flexible remote model that seeks to engage families in learning both through a speaker, and because messages were received through caregivers’ phones (Figure 3.4).

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

1. Media can be adapted to countries and students’ specific situations.

2. Technology used is not a fundamental variable for success.

3. Technology has implications for program costs for both families and tutors and for the institution in charge of implementing and managing tutoring.
3.4.3 Curricular areas

All tutoring included math as a subject. In Italy and Spain, programs were focused on middle school students. In African and Asian countries, these were oriented to fifth-grade students and limited to basic math operations (addition, subtraction, multiplication, and division).

Italy had one of the few multi-subject programs in the world as, apart from math, it included Italian and English lessons. These three subjects were selected because they were considered critical to successfully navigate the following educational process. The design was flexible in order to adapt to each student’s needs. For example, if they were fluent in Italian but had a hard time with math, the program focused only on that area.

A peculiarity in India, Nepal, Uganda, the Philippines, and Kenia was the adoption as a pedagogical approach of TaRL, described in Chapter 2. In accordance with this approach, the program provided individual instruction to students on a weekly basis. This was achieved through verification questions, or “problems of the day,” delivered at the end of each session, which helped the tutor know whether the student
had mastered a skill. Students who answered one of those verification questions correctly moved on to the next topic in the next session, whereas those who did not repeated the lesson the following week.

### 3.4.4 Tutor–student relation

Tutoring was individual in Italy and African and Asian countries. Italy’s research team also examined the impact of online group tutoring in 2022, identifying various challenges in it—for example, that students cannot reprogram the meeting easily or benefit from individual interaction with the tutor, which allows them to personalize training at an adequate level. Online group tutoring did not have a statistically significant effect on the academic performance or the other three analyzed dimensions (aspirations, socioemotional skills, and wellness).

In Spain, tutoring was given per pair of students. During the whole program, same pairs of students attended reunions with the same tutor in each session. Students in each pair were from the same class or grade and the same school to guarantee they knew each other; in that way, it would be easier for them to connect and adapt. The decision to establish tutoring with two students per professor was made on 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 of generating mutual motivation and pressure among equals not to abandon 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 individual (Nickow et al., 2020).

3. This design allowed tutors to impart tutoring to twice as many students than in a one-on-one setting.

The fact that Menttores had obtained positive effects with the two students per one-teacher setting is very important because it affects cost-efficiency considerations.
Box 3.4

**National tutoring programs: Spain**

Educational Guidance, Advancement and Enrichment Program (PROA+) is an initiative of the Ministry of Professional Education and Training in collaboration with autonomous communities from Spain, which holds funding from the European Union’s Resilience and Recovery Mechanism of 360 million euros (equivalent to $397 million dollars\(^5\)) for the 2021-2024 period.

**Objective:** to support students’ educational success, especially from those in vulnerability, offering resources and training to educational centers facing greater difficulties.

**Reach:** centers adopt different measures, including organizational changes to facilitate reinforcement.

**Goal:** to facilitate individualized tutoring, co-teaching, and attention to diversity, looking to promote advancement in every student. Measures to guarantee the stability and quality of the teaching staff, as well as the participation of other education professionals needed to execute the plan, are also considered.

**Prioritization:** educational guidance, advancement, and enrichment in centers of special educational complexity, benefiting primary and secondary students.

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### 3.4.5 Tutor’s profile

Programs differed in terms of tutors’ characteristics. In Italy, they were university student volunteers; in Spain, they were qualified math teachers; and in African and Asian countries, they were public school teachers, community education volunteers, and ONG facilitators.
The peculiarities of each group are explained hereunder.

### 3.4.5.1 University volunteer students as tutors

TOP tutors in Italy were university student volunteers from every discipline (see advantages of volunteer tutors in Figure 3.5), given that, in tutoring, the quality of interchanges between teacher and student is fundamental for success (Cook et al., 2015); the skills required in interactions are different from those traditionally observed within the classroom. For that reason, the program relied on the intrinsic motivation and social engagement of tutors to facilitate interactions with their tutees, which can be particularly important for students facing a greater risk of school dropout.

**Figure 3.5** Potential benefits of university student volunteers as tutors

1. **It is a cost-effective solution** and relaxes the constraint of a possible lack of a sufficient supply of certified professionals.

2. **Provides positive role models for students** who may not have regular access to higher education opportunities. College tutors, by being closer in age and sharing similar experiences with their mentees, can foster a stronger connection, leading to a more engaging and effective learning experience. In addition, volunteer tutors bring diverse perspectives and experiences that can broaden students’ understanding of the world around them and future educational and career opportunities.

3. **Promotes a sense of commitment and social responsibility** among university students, who can develop a better understanding of the challenges faced by disadvantaged communities and contribute to their development.

*Source:* own elaboration based on Carlana et al. (2023).
As part of the online tutoring program, tutors had the support of pedagogical experts during the whole program, and before starting tutoring, they went through a rigorous training program. This allowed them to be equipped with the necessary knowledge and skills to offer tutoring online services of high quality to students between 11 and 13 years and to interact with them.

In addition, TOP offered continuous support and development opportunities of professional development so that tutors could improve their teaching and social skills.

Tutors’ training was designed to supply candidates with the needed knowledge and skills to support learning objectives from students. Besides self-directed training, the implementing partner and pedagogical team could also program additional training sessions for tutors.

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

### 3.4.5.2 Teachers as tutors

In Spain, tutoring sessions were facilitated online by qualified math professors in groups of two students per tutor. The decision to hire professors was based on two reasons:

1. Existing evidence of in-person tutoring suggests that professors are significantly more effective than nonprofessional or volunteers (Nickow et al., 2020).

2. Although a treatment taught by university student volunteers, as in Italy, was suggested, the program was not able to recruit enough candidates.51

ExE designed and conducted the selection and training of tutors, based on their previous teachers’ selection experience. A key criterion to be selected was to have a Master’s Degree in Teacher Training in a scientific specialization (math, physics,
chemistry, or biology), which is a formal requirement to teach math in middle school in Spain. Other skills that were taken into consideration were the motivation toward the program, teaching experience in schools with low resources, and previous teaching experience.

Positions were advertised through various channels, including online recruitment portals, ExE network of current and former students, and other teachers working within the organization. A total of 199 applicants fulfilling the minimum requirements received a formal application form to apply. From these, 110 candidates received a link for an online interview. Finally, 46 tutors were hired, which was the required number to provide tutoring to 200 students approximately.

3.4.5.3 Public school teachers and facilitators

In ConnectEd pilots, local ONGs, government organizations, and education-focused groups worked together. These collaborations facilitated the implementation of the program and provided monitoring, training, and technical assistance tools to teachers.

In each country, selected instructors were either public school teachers (e.g., officials), or facilitators, which included community education volunteers and instructors trained to be teachers and who were working for an ONG.

In the Philippines and Nepal, intervention was randomized between ONG facilitators and government teachers, which provided information about program effectiveness in various teaching contexts. In both cases, the average effect of telephone tutoring in learning resulted in significant improvements, especially when they were taught by professional teachers. This result suggests a promising potential to escalate the intervention.

To understand the impact of the program’s implementation on teachers’ beliefs and practices, a group of government teachers from Nepal was randomly assigned to give tutoring in that country. As a result, their practices changed substantially:
Their propensity to direct their comments to the students’ learning level increased.

Their tendency to involve parents in education increased.

Their perception about their capacity to help students to learn, as well as their teaching desire, increased.

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

The program also demonstrated its adaptability to various contexts and regional particularities such as linguistic differences. In India, tutoring was taught in English and Telugu; in Kenya, in English, and Kiswahili; in Nepal, in more than 12 languages; in the Philippines, in the five most spoken languages in the studied regions; and in Uganda, in English, Luganda, and Runyankore. This multifaceted approach, added to the robust effects reached through the learning, highlights the versatility and efficacy of telephone tutoring.
Box 3.5

National tutoring programs: England

The NTP has a 349 million pounds financing ($446M USD\textsuperscript{53}) for 2022 and 2023. Schools get between 162 and 432 pounds per student.

**Objective:** to provide high-quality tutoring access to students whose education has been affected by the COVID-19 pandemic, with an approach in English and math.

**Format** includes three tutoring rounds: tuition partners, academic mentors, and school-led tutoring, available online and physically.

**Scope:** state schools get funding from the program throughout the whole academic year to offer tutoring to students. Currently, the government finances 60% of the cost, and schools finance the remaining 40%. In the future, government subsidy will decrease by 25%. Until August 31, 2022, 87% of schools participated on NTP, teaching 2.1 million courses to students.

**Priority:** focus on students from their first until the eleventh school year, (elementary, junior, and high school) in all state schools.

3.4.6 Program costs

Even though the cost per student varies in every case, the three programs have proven to be profitable within their specific context. This is quite important, as cost-efficiency on remote tutoring and their adaptability to diverse situations is crucial for its implementation and success.

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

In descending cost order by student, we begin with Menttores of Spain, which obtained an intervention cost of 300 euros per student. Menttores is the only program that used qualified and paid teachers. Also, it was the smallest one, which increased the cost per student.
Nonetheless, this program guaranteed digital inclusion for every student by providing an electronic device and internet to those who had it. For this, they adopted an online methodology, using Google Workspace for the interaction and tasks supervision, which allowed participation for remote tutors and had a lower cost than other alternatives with professional teachers.

The program turned out to be an effective investment, socially and economically, with a positive impact on learning results and grade repetition reduction. If we extrapolate to the national reduction system the 75% of grade repetition obtained by Menttores and the costs they entail, the government from Spain could save 1.2 billion euros per year. This saving could sum to make improvements to the individual well-being and to a greater education level for students who do not repeat, given that the grade repetition and school dropout are correlated. Other favorable impacts would be social cohesion and economic growth. All this supports the sustainability of the hereby program.

The TOP program in Italy, with an average cost of 50 euros per student (including organizational, teaching and administrative expenses), stood out for their cost control without sacrificing quality, essentially thanks to voluntary tutors.

TOP provides solid evidence on cost-effective tutoring 1:1 by drastically reducing the cost of these, which is one of the main obstacles for their implementation on a big scale, and to facilitate the access to students in unfavored areas through virtual learning, all while achieving important progress on learning and socioemotional aspects. Even after the schools reopen, TOP online tutoring modalities with volunteers can still be an efficient and economic tool to support vulnerable children and prevent inequalities.

Remote tutoring was particularly cost-efficient in ConnectEd, which took place in developing countries (India, Nepal, Uganda, the Philippines, and Kenya), and whose average was $12 USD per student, a very low number due to the use of mobile phones as primary material to receive their instruction. Almost all homes had these devices; therefore, it was possible to use the exiting domestic infrastructure. This was an especially important advantage to leverage scalability on administrative costs.
The main cost boosters for ConnectEd were as follows:

1. Tutors’ capacity.
2. Personal time dedicated to preparing the lessons contents.
3. Tutors’ time to program and perform calls.
4. Time used on the mobile phone.
5. Personal time for supervision and management.

The study has spread to more countries and with more participants, reducing even more the costs per student thanks to the scale economies, by distributing the training material costs and monitoring systems between more students; this has resulted in a cost reduction per student.

The program may provide more than three years of high-quality education for every $100 USD invested, placing it in the top percentile of cost-effective interventions (Angrist et al., 2020). This highlights its potential to improve education affordably in mid and low-income contexts and to contribute to addressing the global learning crisis.

To establish the cost-effectiveness of remote tutoring in India, Nepal, Uganda, Kenya, and the Philippines, the Learning Adjusted Years of Schooling (LAYS) were used. LAYS is a metric that calculates the equivalent in years of high-quality education for a given intervention in a specific context. Angrist et al. (2023) show a LAYS comparison for every $100 USD for interventions on education technology and pedagogy that showed an impact. ConnectEd produced 3.4 LAYS per $100 USD, making it one of the most cost-effective interventions.
3.5 Matters to solve

The evidence in favor of remote tutoring is accumulating and showing robustness across various contexts and application methods. The gathered data from seven countries, which were noticeably different when analyzed in this chapter, show they can be provided by a variety of tutoring profiles and through different devices, which highlights the potential scalability. As the implementation spreads, our knowledge on their capacity will increase in order to generate bigger impacts from those already established by existing studies.

However, some matters are still pending:

- It is crucial to analyze in detail the mechanisms leading to the observed results, among them the tutors’ characteristics, the training they receive, their interactions with their students, and the type of devices used.

- For now, the sample sizes are not big enough to detect differences in results among groups that differ from more subtle aspects. The evaluations for scaled programs, with big samples, will allow research in fundamental areas to maximize the impact of remote tutoring. Also, it is important to explore if the positive results of tutoring are kept in other educational contexts with different socioemotional support levels to students or teachers training or other subjects such as reading and sciences.

- The discussed works involve students in primary and junior high school, which suggest an important impact, but it must still be determined which is the optimal moment for intervention. This answer may depend on the context and educational objectives of each future program, but in any case, it will be important to establish what type of student is more receptive to translate tutoring into performance improvement.

- It will be interesting to explore the effect of introducing complementary technologies, such as adaptative software with high-quality content, asynchronous interactions with tutors via chats, or even AI bots to support math learning. Thus, we will be able to evaluate the additional value of real-time interactions between students and tutors.
We are lacking in evidence of efficient educational programs in emergency situations, as there is a lack of data on these scenarios. In numerous countries, the educational crisis is structural and transcends a specific catastrophe such as the COVID-19 pandemic. Therefore, it is necessary to obtain information that clearly differentiates the impact of a pandemic on an educational process from the interruptions caused by other emergencies or sources of interruption. In addition, it is important to validate the remote tutoring impact in surroundings such as Latin America, which characterizes the low levels of learning quality and spread in educational gaps.

It is vital to study the relation between tutoring and schools, specifically among tutors and teachers. This collaboration may contribute to the remote tutoring success and can be additional. Moreover, we must consider how to improve communication among parties, formalize it, and determine the role of the institutions and regulatory organizations during the promotion.

In this way, remote tutoring could become a structural solution and not just an emergency measure. Its flexibility and accessibility make this an attractive alternative for a wide range of educational situations beyond crisis.

Questions still remain to be answered and details need to be polished, but the results so far suggest these interventions have a significant potential to improve education in a variety of contexts and circumstances. The next chapter shows how the adaptation into Latin America has developed.
Box 3.6

National tutoring programs: Chile

The NTP is a central element for the Education Reactivation Plan from the Ministry of Education in Chile (MINEDUC in Spanish). This project is only one of their tutoring initiatives adopted in the country in an effort to develop students’ learning, including programs like Red Tutores for Chile and Seamos Comunidad que Acompaña y Aporta. The program has funding from the FOSIS Innovation Funds and dependence from the Social Development Ministry (100 million Chilean pesos, equivalent to $120,917 USD) and MINEDUC (500 million Chilean pesos, equivalent to $604,585 USD), which is part of the 250,000 billion ($300 million USD) budgets for the Educational Reactivation Policy.

Objective: to implement student supporting programs with better support to their needs during their school learning and commitment.

Scope: the proposal is based on alliances with foundations and superior education institutions, with the purpose of counting on 20,000 tutoring in all regions of the country.

Format: the plan divides into two courses of action:

1. Tutoring program with Superior Education Institutions, where pedagogy students and related disciplines provide onsite tutoring in educational communities, with interventions that go from one to three weekly sessions during a period of six to 16 weeks, depending on the formative model of each institution.

2. Community tutoring program, performed mostly online, and focused on connecting the education community’s needs with territory actors and civil society organizations. This program comprises tutoring sessions from 30 to 60 minutes weekly for a maximum period of 16 weeks.

Prioritize: the tutoring of the program with superior education institutions includes tutors of several disciplines (e.g., mathematics, sciences, physical education) to strengthen the learning recovery and the relationship with the school community, also promoting the well-being and mental health in all educational levels. On the selection criteria, the students with low assistance and performance are included for the program. Community tutoring is principally directed to students from 2° to 4° and focuses on developing reading, writing skills, and basic math 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
  Download

- Argentina
  Lessons Learned from a Remote Tutoring Pilot
  Gastón Gertner, Guadalupe Dorna
  Download

- México
  Redes de tutoría
  Santiago Rincón-Gallardo
  Download
4.1 General Characteristics of the Intervention Model in the Cases of El Salvador, Guatemala, and Mexico

4.1.1 Intervention and Phases

4.1.2 Profile of the Tutors

4.1.3 Week-by-Week Development

4.1.4 Profile of the Students

4.1.5 Diagnostic and Evaluation Instrument

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

4.2.1 Results of the Pilot Projects

4.2.2 Impacts of the Program

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

4.3.1 Some Specifics of the Context of CABA and Mendoza Cases

4.3.2 Difficulties in Recruiting Families and Strategies to Overcome Them

4.3.3 Recruiting and Motivating Tutors: Teacher Training Students as Tutors

4.3.4 Ensuring Quality

4.3.5 Program Impacts

4.4 Lessons from a Regional Perspective
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-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).

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-experimental58) 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.

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.

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.

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 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 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>
<thead>
<tr>
<th>Predominant profile</th>
<th>El Salvador</th>
<th>Guanajuato</th>
<th>Tabasco</th>
<th>Guatemala</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age</td>
<td>31</td>
<td>25</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Age range</td>
<td>19-63</td>
<td>18-51</td>
<td>18-51</td>
<td>17-62</td>
</tr>
<tr>
<td>Percentage of women</td>
<td>76%</td>
<td>92%</td>
<td>69%</td>
<td>73%</td>
</tr>
</tbody>
</table>

**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.

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. 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 with mathematical challenges 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.
4.1.4 Profile of the Students

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%;

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 (SCAS⁶⁴) (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

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Guatemala</th>
<th>Tabasco, Mexico</th>
<th>Guanajuato, Mexico</th>
<th>El Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not full, in-person instruction</strong></td>
<td>62%</td>
<td>33%</td>
<td>23%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>No internet at home</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>63%</td>
<td>54%</td>
<td>30%</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Low socioeconomic level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>57%</td>
<td>54%</td>
<td>44%</td>
<td>38%</td>
</tr>
<tr>
<td><strong>High anxiety</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>42%</td>
<td>37%</td>
<td>35%</td>
<td>32%</td>
</tr>
</tbody>
</table>

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; 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).
**Figure 4.2** Implementation site and features

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

### Table 4.2 Final Interviews Achieved

<table>
<thead>
<tr>
<th>Department</th>
<th>El Salvador</th>
<th>Guanajuato</th>
<th>Tabasco</th>
<th>Guatemala</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial interview (eligible)</strong></td>
<td>3,440</td>
<td>2,718</td>
<td>3,237</td>
<td>1,689</td>
</tr>
<tr>
<td><strong>Final interviews</strong></td>
<td>2,636</td>
<td>1,144</td>
<td>966</td>
<td>1,127</td>
</tr>
<tr>
<td><strong>Percentage of recontact</strong></td>
<td>77%</td>
<td>42%</td>
<td>30%</td>
<td>67%</td>
</tr>
<tr>
<td><strong>Recontact Treatment group</strong></td>
<td>79%</td>
<td>38%</td>
<td></td>
<td>65%</td>
</tr>
<tr>
<td><strong>Recontact Control group</strong></td>
<td>75%</td>
<td>46%</td>
<td></td>
<td>69%</td>
</tr>
</tbody>
</table>

**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.
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).
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

Percentage of parents who identify that students acquired new learning and skills through tutorials

- 52% Motivation for school
- 47% Curiosity for mathematics
- 46% Study habits
- 42% Order and discipline in doing homework

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.

**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 methodology was used in Guatemala and Tabasco. 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. 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.

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.
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).
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

<table>
<thead>
<tr>
<th></th>
<th>Association, 1 Additional Tutoring</th>
<th>Session Association, 8 Tutoring Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Improvement in Mathematics Test in Standard Deviations (SD):</td>
<td>Improvement in Mathematics Test in Standard Deviations (SD):</td>
</tr>
<tr>
<td>El Salvador</td>
<td>0.033</td>
<td>0.29</td>
</tr>
<tr>
<td>Guanajuato</td>
<td>0.030</td>
<td>0.27</td>
</tr>
<tr>
<td>Guatemala</td>
<td>0.017</td>
<td>0.128</td>
</tr>
<tr>
<td>Tabasco</td>
<td>0.051</td>
<td>0.437</td>
</tr>
</tbody>
</table>

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.
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.

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.
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 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. 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. The study constructed an indicator of tutor engagement 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.

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.

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

- **Masificar el impacto**
  Esquemas de colaboración
  David Gironza
  Download

- **El reto de escalar programas de tutorías**
  Inés Aguerrondo, María Cortelezzi
  Download

- **Tutorías en Iberoamérica**
  El desafío de acompañar trayectorias escolares diversas
  Gachy Cappelletti, Natalia Savransky
  Download
5. Scaling up

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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 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 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

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 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).

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

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-efff-
ffecte 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.

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 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.

The information in this section suggests that there is no ideal tutor profile, but rather the richness lies precisely 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.
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;

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 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.

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

**Box 5.2**


**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
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.

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

133,115 Students reached through Aula Global (tutoring program)
1,035 Teachers
715 Public schools

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).

**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 mentoring

**IMPACT MECHANISMS**

**INPUTS**

**TUTOR**

- Components
  - Delivery
  - Content
  - Dose

**REMOTE TUTORING**

- Instructional time: Students who receive tutoring receive additional training
- Engagement: Greater engagement is achieved with the class thanks to fewer distractions
- Tutor - Student Relationship: Tutorials allow for a better relationship between the tutor and the student
- Learning at the right level: Content is tailored to the needs of the student

**PRODUCTS**

**EFFECTS ON STUDENTS**

- Performance academic: Performance en calificaciones de fin de año o exámenes estandarizados
- Aspiration educational: Desire to proceed to the next level of education
- Skills socio-emotional: Soft skills for social interaction and academic performance
- Welfare: State of the person whose conditions provide satisfaction and peace of mind

**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).

▸ 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.
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), 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.

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

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

*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

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of Children Achieving Foundational Learning in Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PISA 2018</strong></td>
<td></td>
</tr>
<tr>
<td>Uruguay</td>
<td>49%</td>
</tr>
<tr>
<td>Chile</td>
<td>48%</td>
</tr>
<tr>
<td>Mexico</td>
<td>44%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>40%</td>
</tr>
<tr>
<td>Peru</td>
<td>40%</td>
</tr>
<tr>
<td>Colombia</td>
<td>35%</td>
</tr>
<tr>
<td>Brazil</td>
<td>32%</td>
</tr>
<tr>
<td>Argentina</td>
<td>31%</td>
</tr>
<tr>
<td>Panama</td>
<td>19%</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>9%</td>
</tr>
<tr>
<td><strong>LAC Average</strong></td>
<td>35%</td>
</tr>
<tr>
<td>Ecuador</td>
<td>29%</td>
</tr>
<tr>
<td>Honduras</td>
<td>15%</td>
</tr>
<tr>
<td>Guatemala</td>
<td>11%</td>
</tr>
<tr>
<td>Paraguay</td>
<td>8%</td>
</tr>
<tr>
<td><strong>PISA-D (students)</strong></td>
<td></td>
</tr>
<tr>
<td>Honduras</td>
<td>3%</td>
</tr>
<tr>
<td>Panamá</td>
<td>2%</td>
</tr>
<tr>
<td>Guatemala</td>
<td>0%</td>
</tr>
<tr>
<td>Paraguay</td>
<td>0%</td>
</tr>
<tr>
<td><strong>PISA-D (out-of-school youth)</strong></td>
<td></td>
</tr>
<tr>
<td>Honduras</td>
<td>3%</td>
</tr>
<tr>
<td>Panamá</td>
<td>2%</td>
</tr>
<tr>
<td>Guatemala</td>
<td>0%</td>
</tr>
<tr>
<td>Paraguay</td>
<td>0%</td>
</tr>
</tbody>
</table>

**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.

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).
**Educational attainment of 12-year-old boys and girls in Latin America and the Caribbean**

8.7 Million boys and girls 12 years old

- **32%** (2.8 Million) are in school and have mastered foundational mathematics learning.
- **63%** (5.4 Million) are in school and have not mastered the foundational learning of mathematics.
- **5%** (420 Mil) are outside of school.

**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.

**Which Categories Do We Consider Within the Costs?**

Once we know the number of potential beneficiaries, 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

1. Eligibility calculation
   - Total children aged 12 years (2.2 million)
     - Have mastered foundational mathematics learning (41% (929 mil))
     - Have not mastered foundational mathematics learning (53% (1.12 million))
     - Children eligible for tutoring (59% (1.3 million))

2. General specifications of the program
   - Parameters:
     - 15 students per tutor
     - 10 tutors per coordinator
     - 8 tutorials per student
   - Equivalent to:
     - 88 thousand tutors
     - 9 thousand coordinators
     - 10.6 million tutoring sessions

3. General cost specifications
   - Los costos del programa incluyen:
     - Stipends to tutors and coordinators
     - Tutor training
     - Communication
     - Database management
     - Management and coordination costs

4. Range of investment taking into account cost scenarios
   - Scenario 1: US$29 per student, US$39 million, total expense
   - Scenario 2: US$60 per student, US$80 million, total spending

5. Increase in total education spending in the country
   - 0.06% increase in education spending
   - 0.13% increase in education spending


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

<table>
<thead>
<tr>
<th>Sector</th>
<th>Students Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>244,263</td>
</tr>
<tr>
<td>Private</td>
<td>130,948</td>
</tr>
<tr>
<td>Total</td>
<td>375,211</td>
</tr>
</tbody>
</table>

*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

<table>
<thead>
<tr>
<th>Support Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial support to tutors</td>
<td>50%</td>
</tr>
<tr>
<td>Management and coordination</td>
<td>25%</td>
</tr>
<tr>
<td>Communication</td>
<td>14%</td>
</tr>
<tr>
<td>Coordinator salary</td>
<td>4%</td>
</tr>
<tr>
<td>Database management</td>
<td>4%</td>
</tr>
<tr>
<td>Tutor training</td>
<td>3%</td>
</tr>
</tbody>
</table>

*Source: own elaboration based on cases of remote tutoring implemented by the IDB in Latin America.*

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.

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.
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. 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

**Additional Expenditure of Countries in the Education Budget in a Scaling Scenario**
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**

![Figure 5.1 Projected Expenditures for the Implementation of Tutoring by Country](image)

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.

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 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.

In summary, this work concludes that remote tutoring is a high-impact, low-cost tool to address the structural deficiencies 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.


Bibliography Chapter 2


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Bibliography Chapter 4


Bibliography Chapter 5


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).


4. It is important to note that the results consider the participants of this global evaluation in 2018: Argentina, Brazil, Chile, 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.


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 mathematics, 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 (11029 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.


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.
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.

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 7 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.

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.

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.

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.

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.


To simplify the exercise, we assume that the cost per student is the same for students inside and outside of school.

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.

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

<table>
<thead>
<tr>
<th></th>
<th>El Salvador</th>
<th>Tabasco</th>
<th>Guanajuato</th>
<th>Guatemala</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control (1)</td>
<td>Treat. (2)</td>
<td>Difference (1)-(2)</td>
<td>Control (1)</td>
</tr>
<tr>
<td>Woman</td>
<td>0.53</td>
<td>0.51</td>
<td>0.01</td>
<td>0.51</td>
</tr>
<tr>
<td>Age</td>
<td>11.80</td>
<td>11.72</td>
<td>0.08</td>
<td>10.67</td>
</tr>
<tr>
<td>Age - 9 to 11</td>
<td>0.43</td>
<td>0.46</td>
<td>-0.033*</td>
<td>0.73</td>
</tr>
<tr>
<td>Disability</td>
<td>0.05</td>
<td>0.06</td>
<td>-0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>Indigenous*</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.04</td>
</tr>
<tr>
<td>Secondary (1st to 3rd year)</td>
<td>0.28</td>
<td>0.29</td>
<td>-0.01</td>
<td>0.15</td>
</tr>
<tr>
<td>Face-to-face</td>
<td>0.88</td>
<td>0.86</td>
<td>0.02</td>
<td>0.81</td>
</tr>
<tr>
<td>Regular face-to-face (5 days a week)</td>
<td>0.69</td>
<td>0.67</td>
<td>0.02</td>
<td>0.36</td>
</tr>
<tr>
<td>Enjoys studying a lot</td>
<td>0.84</td>
<td>0.85</td>
<td>0.00</td>
<td>0.78</td>
</tr>
<tr>
<td>Eager to learn</td>
<td>0.92</td>
<td>0.91</td>
<td>0.01</td>
<td>0.85</td>
</tr>
<tr>
<td>Over-age (mild)</td>
<td>0.05</td>
<td>0.04</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>Parents without High School</td>
<td>0.68</td>
<td>0.68</td>
<td>0.01</td>
<td>0.49</td>
</tr>
<tr>
<td>Socioeconomic Score (NSE)</td>
<td>112.77</td>
<td>112.64</td>
<td>0.13</td>
<td>113.41</td>
</tr>
<tr>
<td>NSE Low</td>
<td>0.58</td>
<td>0.57</td>
<td>0.01</td>
<td>0.39</td>
</tr>
<tr>
<td>NSE Medium</td>
<td>0.29</td>
<td>0.31</td>
<td>-0.02</td>
<td>0.43</td>
</tr>
<tr>
<td>NSE High</td>
<td>0.13</td>
<td>0.12</td>
<td>0.01</td>
<td>0.17</td>
</tr>
<tr>
<td>Has internet at home</td>
<td>0.33</td>
<td>0.37</td>
<td>-0.042**</td>
<td>0.73</td>
</tr>
<tr>
<td>High or elevated anxiety</td>
<td>0.38</td>
<td>0.37</td>
<td>0.37</td>
<td>0.32</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students who participated in the Tutoring Program</td>
<td>818</td>
<td>158</td>
<td>623</td>
<td>522</td>
</tr>
<tr>
<td>Participated in 1-2 tutoring sessions</td>
<td>85</td>
<td>18</td>
<td>59</td>
<td>23</td>
</tr>
<tr>
<td>Participated in 3-7 tutoring sessions</td>
<td>69</td>
<td>61</td>
<td>81</td>
<td>33</td>
</tr>
<tr>
<td>Participated in 8 tutoring sessions</td>
<td>664</td>
<td>79</td>
<td>483</td>
<td>464</td>
</tr>
<tr>
<td>Passed division level</td>
<td>547</td>
<td>95</td>
<td>447</td>
<td>364</td>
</tr>
<tr>
<td>Completed the Program*</td>
<td>691</td>
<td>103</td>
<td>515</td>
<td>479</td>
</tr>
</tbody>
</table>

Percentage that:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participated in 1-2 tutoring sessions</td>
<td>10%</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Participated in 3-7 tutoring sessions</td>
<td>8%</td>
<td>39%</td>
<td>13%</td>
</tr>
<tr>
<td>Participated in 8 tutoring sessions</td>
<td>81%</td>
<td>50%</td>
<td>78%</td>
</tr>
<tr>
<td>Passed division level</td>
<td>67%</td>
<td>60%</td>
<td>72%</td>
</tr>
<tr>
<td>Completed the Program*</td>
<td>84%</td>
<td>65%</td>
<td>83%</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th></th>
<th>El Salvador</th>
<th>Guanajuato</th>
<th>Guatemala</th>
<th>Tabasco</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied with the Quality of the Tutoring</td>
<td>79%</td>
<td>76%</td>
<td>77%</td>
<td>73%</td>
<td>78%</td>
</tr>
<tr>
<td>Believes that Tutoring Greatly Improved Learning in Mathematics</td>
<td>92%</td>
<td>88%</td>
<td>92%</td>
<td>83%</td>
<td>91%</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th></th>
<th>El Salvador</th>
<th>Guanajuato</th>
<th>Guatemala</th>
<th>Tabasco</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Habits</td>
<td>50%</td>
<td>42%</td>
<td>47%</td>
<td>39%</td>
<td>46%</td>
</tr>
<tr>
<td>Curiosity about Mathematics</td>
<td>49%</td>
<td>39%</td>
<td>49%</td>
<td>48%</td>
<td>47%</td>
</tr>
<tr>
<td>Motivation for School</td>
<td>51%</td>
<td>54%</td>
<td>55%</td>
<td>45%</td>
<td>52%</td>
</tr>
<tr>
<td>Order and Discipline for Doing Tasks</td>
<td>41%</td>
<td>45%</td>
<td>43%</td>
<td>36%</td>
<td>42%</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th></th>
<th>Assignment to Treatment</th>
<th>Impact on Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>El Salvador</strong></td>
<td>0.121***</td>
<td>0.234***</td>
</tr>
<tr>
<td></td>
<td>(0.0360)</td>
<td>(0.0694)</td>
</tr>
<tr>
<td></td>
<td>[2,636]</td>
<td>[2,636]</td>
</tr>
<tr>
<td><strong>Guanajuato</strong></td>
<td>0.206****</td>
<td>0.214***</td>
</tr>
<tr>
<td></td>
<td>(0.055)</td>
<td>(0.057)</td>
</tr>
<tr>
<td></td>
<td>[1,144]</td>
<td>[1,144]</td>
</tr>
</tbody>
</table>

#### Quasi-experimental Evaluation: Differences in Differences

<table>
<thead>
<tr>
<th></th>
<th>At Least One Tutoring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Guatemala</strong></td>
<td>0.155**</td>
</tr>
<tr>
<td></td>
<td>(0.071)</td>
</tr>
<tr>
<td></td>
<td>[2,254]</td>
</tr>
<tr>
<td><strong>Tabasco</strong></td>
<td>0.408***</td>
</tr>
<tr>
<td></td>
<td>(0.127)</td>
</tr>
<tr>
<td></td>
<td>[1,080]</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Association per Tutoring Session</th>
<th>Association for 8 Tutoring Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>El Salvador</strong></td>
<td></td>
</tr>
<tr>
<td>0.033***</td>
<td>0.290***</td>
</tr>
<tr>
<td>(0.0098)</td>
<td>(0.0429)</td>
</tr>
<tr>
<td>[2,636]</td>
<td>[2,636]</td>
</tr>
<tr>
<td><strong>Guanajuato</strong></td>
<td></td>
</tr>
<tr>
<td>0.030***</td>
<td>0.270***</td>
</tr>
<tr>
<td>(0.0079)</td>
<td>(0.057)</td>
</tr>
<tr>
<td>[1,144]</td>
<td>[1,144]</td>
</tr>
</tbody>
</table>

### Quasi-experimental Evaluation: Differences in Differences

<table>
<thead>
<tr>
<th>Per Tutoring Session</th>
<th>8 Tutoring Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Guatemala</strong></td>
<td></td>
</tr>
<tr>
<td>0.017*</td>
<td>0.128*</td>
</tr>
<tr>
<td>(0.009)</td>
<td>(0.074)</td>
</tr>
<tr>
<td>[2,254]</td>
<td>[2,144]</td>
</tr>
<tr>
<td><strong>Tabasco</strong></td>
<td></td>
</tr>
<tr>
<td>0.051***</td>
<td>0.437***</td>
</tr>
<tr>
<td>(0.018)</td>
<td>(0.162)</td>
</tr>
<tr>
<td>[1,080]</td>
<td>[936]</td>
</tr>
</tbody>
</table>

**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:

\[ Y_i = \beta_0 + \delta D_i + \alpha X_i + \varepsilon_i \]  \hspace{1cm} (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. \( \delta \) 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.

\[ T_i = \pi_0 + \gamma D_i + \pi X_i + \nu_i \]  \hspace{1cm} (2)

\[ Y_i = \alpha_0 + \rho \hat{T}_i + \alpha X_i + \omega_i \]  \hspace{1cm} (3)

The difference-in-differences model was estimated with the panel base:

\[ Y_{it} = \alpha_i + \gamma_t + \rho D_{it} + \varepsilon_{it} \]  \hspace{1cm} (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:

\[
Y_i = \beta_0 + \lambda NC_i + \phi C_i + \alpha X_i + \epsilon_i \quad (5)
\]

The parameter of interest is \( \phi \), 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:

Inés Aguerrondo  Leah Groom-Thomas
Noam Angrist     Felipe Hevia
Paulina Araneda  Claudia Hupkau
Michela Carlana  Eliana La Ferrara
María Cortelezzi  Susanna Loeb
Colin Crossley   Emma Naslund-Hadley
Claire Cullen    David Parker
Guadalupe Dorna  Antonio Roldán
Gastón Gertner   Miguel Székely
David Gironza    Denise Vaillant
Lucas Gortázar  


MULTIPLYING LEARNING
MULTIPLYING LEARNING

IDB