

TC Document

I. Basic Information for TC

▪ Country/Region:	Perú
▪ TC Name:	Educacion hibrida en Peru: Evaluando el Uso de la Plataforma Conecta Ideas a Escala
▪ TC Number:	PE-T1477
▪ Team Leader/Members:	Arias Ortiz, Elena (SCL/SCL) Líder del Equipo; Mendez Vargas, Carolina Patricia (SCL/EDU) Jefe Alternativo del Equipo de Proyecto; Aleman, Marco Andres (VPC/FMP); Almeida Oleas, Natalia (LEG/SGO); Arguello, Marlene Zoraida (VPC/FMP); Blasco, Ivana (SCL/EDU); Cristia, Julian P. (RES/RES); Holguin Madrinan, Alejandra (SCL/SCL); Pulido Ramirez, Xiomara (RES/RES)
▪ Taxonomy:	Apoyo al Cliente
▪ Operation Supported by the TC:	
▪ Date of TC Abstract authorization:	30 Mar 2021.
▪ Beneficiary:	Ministry of Education in Perú
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	Programa Estratégico para el Desarrollo Social(SOC)
▪ IDB Funding Requested:	US\$250,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	June 15 th 2021
▪ Types of consultants:	Consulting Firms and Individual consultants
▪ Prepared by Unit:	SCL/EDU-Educaciontion
▪ Unit of Disbursement Responsibility:	SCL/EDU-Educaciontion
▪ TC included in Country Strategy (y/n)	Yes
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Inclusión social e igualdad

II. Objective and Justification

- 2.1 **Objective.** This project seeks to support the Ministry of Education of Peru to implement the online platform Conecta Ideas at the national level and evaluate its impact of the Conecta Ideas, an online platform, on math learning when used at scale. In addition, the project will generate evidence on effective strategies to promote the use of on-line platforms and improve learning, a fundamental input for the countries of the region that are seeking both to address the COVID-19 emergency and promote the use of effective hybrid learning models.
- 2.2 The COVID-19 pandemic has directly impacted the educational systems of all the countries in the region, affecting students, parents, teachers, principals, and administrators at the different levels of the education system. Between March 11, 2020 and February 2, 2021, schools in Latin America and the Caribbean were fully closed

for 158 days on average, compared to a global average of 95 days (UNICEF, 2021) affecting 158 million students, the highest number in the world. In Peru, a similar situation was observed, and all schools remained closed during most of the 2020 academic year. In order to ensure the continuity of education services, Peru adopted a multichannel strategy to reach different segments of the population with its program *Aprendo en Casa* (Learning at Home) that includes TV and radio but also a website that provides access to learning materials such as guides and workbooks that teachers and students can download and use.

- 2.3 As part of the efforts to maintain learning in key learning areas such as Math, the Ministry of Education of Peru partnered with the Bank and other organizations¹ to adapt and use *Conecta Ideas*² (“connect ideas”) in Lima, a digital platform that provides access to Math exercises aligned with the national curriculum. As a result, *Conecta Ideas Peru* was implemented in 59 public schools in Lima in 2020 to promote home-based learning and improve math skills during the pandemic. Approximately 15,000 public school students in 4th and 5th grade and 460 teachers had access to the platform at home during the yearlong school closures. A website called [Conecta Ideas Peru](#) was designed, providing access to instructions on how to connect to the platform, videos on mathematics topics and other supporting materials. This rapid deployment was possible given that the Bank has been working with the Ministry to adapt and test *Conecta Ideas* since 2018³.
- 2.4 How does the program work? Students can access *Conecta Ideas* from cell phones, tablets, laptops or computers to solve the exercises and mathematical problems posed in thematic units. The work can be done any day and at any time by the students. The exercises can be solved in the “Task” mode, through which they receive immediate feedback, or in “Test” mode, so that the teacher can carry out automatic evaluations of the acquired skills. The platform also incorporates game elements (“gamification”) to make the use of the platform more engaging for students. Every time a student performs a *Conecta Ideas* activity, the system records highly detailed information and automatic and personalized reports are generated that show the effort and performance achieved. With this information, the teacher can identify learning needs, provide individual feedback, and readjust their math sessions. This information also allows the implementation team to monitor the use of the program and inform local, regional or national authorities and implement activities to promote its use and improve student learning.

¹ This pilot was supported by the Technical Cooperation “Innovating in Education at Scale using Technology” (PE-T1431). The other partners involved were GRADE, a Peruvian research center and the International Development Research Centre (IDRC), a development agency of the government of Canada.

² *Conecta Ideas* was developed in 2002 by a team of engineers and educators from the Center for Advanced Research in Education at the University of Chile.

³ In 2018, a pre-pilot of *Conecta Ideas* in Lima was implemented in 2 schools for 4th grade students. In 2019, the program reached 42 schools and 2500 also in Lima.

- 2.5 Evidence shows that the platform Conecta Ideas is highly successful at improving math learning in different contexts. A recent experimental evaluation found that the program in Chile generated a 50% improvement in math learning among students that received the program (Araya et al. 2019).⁴ Similarly, in Lima participants obtained 7 additional points in their average score in the Math national standardized examination. In addition to the positive impacts on learning, the implementation of the program in Peru over the last years also provided valuable lessons. First, adapting to the local context is critical for engagement and learning. This is why weekly exercises, as well as videos aligned with the math curriculum in Peru and the *Aprendo en casa* program were uploaded to the platform. Second given that the students were learning from home, personalized automatic reports about their academic achievement was delivered to teachers and text messages were sent to parents to promote the use of the platform at home. Third, access to devices and connectivity matter, in particular in hybrid or remote settings. While the program in Chile had almost universal participation rates, in Peru the situation was different. During the first week of implementation in Lima in 2020, the percentage of students that connected at least once was rather low (around 1%). This was mostly due to the fact that the teachers and the students did not know Conecta Ideas and engagement grew as communication campaigns were implemented. However, for some students the lack of access to stable connectivity or to devices was a barrier. Thus, an app for cellular phones was developed (over 90% of participating families have a cell phone with internet access) and it only needs to be connected to the internet once per week to download the exercises and upload the answers. This solution was also helpful to reduce the cost of using Conecta Ideas for families that do have connectivity but pay by units used (either at home or from a data plan).
- 2.6 Despite all these challenges, the pilot had great results. Between July and December 2020, the percentage of students connected weekly to the platform increased from 1% to 35%, and 58% of students have used the platform at some point. In addition, 100% of principals, 95% of teachers and 90% of students surveyed in December 2020 wanted to use it again in 2021 and the videos uploaded to the webpage had 760,000 views of the videos. For the Ministry of Education and the education community, Conecta Ideas is perceived as a useful tool for the hybrid education model they expect to implement for most of the 2021 academic year. Indeed, Peru started this academic year remotely and will transition towards a hybrid model (alternating distance and in person learning) conditional on local transmission rates (MINEDU, 2021). In addition, the experimental evaluation of the pilot showed that sending text messages to parents about assignments in the platform can increase student use, and that providing direct support to teachers in the use of the platform via program coordinators increases the program intake.

⁴ In this evaluation, participating students practiced math exercises in an online platform during two weekly 90-minute learning sessions that took place in regular school time, supported by an external lab coordinator. The program employed an array of gamification strategies including individual and group competitions.

- 2.7 For 2021, the government has purchased 966,000 tablets for low-income students from 4th grade and up. About 50% of the tablets will include internet (through a data plan) and will be distributed to students between 4th and 6th grade. Conecta Ideas can provide useful content for students that receive tablets and have some internet access. This is why the Ministry of Education requested the support from the IDB with respect to the educational content: to scale access to the Conecta Ideas platform and app to all students in public schools attending grades 4 and 5 and develop materials for 6th grade students (a total of 1.4 million students in public schools). In Peru, 86% of the population has access to cell phones and high fraction have access to internet.
- 2.8 This TC will support the Ministry of Education in Peru in the scale-up of the Conecta Ideas program nationally (both in rural and urban areas) and ensure students have access to appropriate content and activities linked to the curriculum in Mathematics. It will also promote the development of digital skills of teachers and the use of technology as an instructional tool. The evaluation will also collect evidence on how to incentivize the use of the digital platforms in a hybrid learning setting at scale. In this evaluation, we plan to build on the experience of 2020 to design and test different types of teacher support and document the impacts on platform use and math learning. Evidence shows that engaging parents in the education process of their children can improve educational outcomes, as supported by recent studies from Brazil (Cunha et al., 2017), Chile (Berlinski et al., 2021), and the U.K. (Miller et al., 2017).
- 2.9 In the medium term, a growing adoption of technology in education the Latin America and the Caribbean is expected given the rapid transition of education systems towards a digital environment triggered by the pandemic ([Arias Ortiz et al., 2020](#)). When students go back full time to school in person, the learning gaps generated by the pandemic will required of several interventions and tools to make up for the learning loss ([Azevedo et al 2020](#)). Existing evidence shows technology in education is an effective tool to promote learning in a recent meta-analysis (Escueta et al. 2020) and Conecta Ideas in particular, can have significant impact on Math learning when implemented in a school setting (Araya et al. 2019). Thus, this large-scale pilot is an opportunity to learn how to promote the use of these platforms and improve learning at scale.
- 2.10 At an institutional level, the operation is aligned with the Bank's prioritization of learning and school attainment at the primary level as laid out in the Strategy on Social Policy for Equity and Productivity (GN-2588-4). This TC is also aligned with the Updated Institutional Strategy 2020-2023 (AB-3190-2) since it is directly related to the development challenges of social inclusion and equality by developing inclusive hybrid education models that adapt to more vulnerable contexts to reduce the learning gaps that have grown with the pandemic. The TC is also aligned with Corporate Results Framework 2020-2023 (GN-2727-12) by increasing the number of students benefited by education projects in the indicators related to Social Inclusion and Equality. In addition, the TC is aligned with the Skills Development Sector Framework Document (GN-3012-3), which promotes hybrid learning throughout the combination of home and in person learning, the development and use of learning platforms, digital content and

resources, and training teachers to support these objectives that allows a better online teaching system. The TC is also aligned with the Ordinary Capital Strategic Development Programs (GN-2819-1) through the program for Social Development by i) contributing to increase the relevance, quality, and volume of Bank financing aimed at supporting the social sector; and ii) and supporting the IDB and its clients in the task of promoting social inclusion through projects and programs. The TC is consistent with the Country Strategy for Peru (2017-2021) (GN-2889) in that it supports the Bank's strategic objective of improve public management by identifying effective educational models that can be scaled-up by the public sector.

III. Description of Activities/Components and budget

- 3.1 This TC aims at supporting Ministry of Education of Perú in the scale up and evaluation of the program Conecta Ideas Peru nationally in 2021. The program will be available to all students in public schools in grades 4-6. To achieve this, the TC will support two components:
- 3.2 **Component I: Promoting the use of Conecta Ideas Peru at scale.** The project will support the national implementation of Conecta Ideas in 2021 for all students in Peru in grades 4-6⁵. Using the materials and technical support from the TC PE-T1431 currently in execution, we were able to have the platform ready from the beginning of the academic year in April 2021. This TC will ensure the platform can continue to operate from July 2021 to the end of 2021.
- 3.3 The activities in this component will include: (i) content: developing additional exercises in the online platform, videos and related materials aligned to the 6th grade curriculum in Peru; (ii) Personalization: the automatic reports from the program to teachers on the performance of their individual students will be improved to allow for further personalization of learning; (iii) teacher support: develop tutorial videos to promote teacher autonomy in the use of the platform and hire pedagogical coordinators to conduct training sessions and workshops to help teachers understand how to integrate Conecta Ideas in their instruction; (iv) design of strategies to promote the use of the app and the web platform using the large-scale communication channels that the Ministry utilizes, including but not limited to TV, radio, web, the press, and social media as well as text messages for the schools included in the experiment.
- 3.4 **Component II: monitoring and evaluation of the program.** The objective of this component will be to monitor the implementation and to evaluate the effect of the program after 1 academic year on two main outcomes of interest: use of the platform and math academic achievement. Platform use will be measured exploiting the individual-level granular data recorded on the platform regarding student use. The data

⁵ The program will be available for the total number of students in 4,5 and 6th grade in Peru, that is approximatively that is 1.4 million students. However, because the use of the platform is not compulsory and there are some areas without connectivity, we expect the number of users to be lower, around 5% the first year and 10% the second year.

will allow analyze how the activities aimed at promoting use impact who uses the platform and how much the platform is used. The Ministry of Education is planning to measure learning in fourth grade at the end of 2021 (either in person or computer-based) and we plan to use these assessments to evaluate impacts on academic achievement. Thus, the analysis about platform use will include all grades 4-6 but the evaluation about the effect of learning will be restricted to 4th graders given the limitations with learning assessments in the context of COVID-19.

- 3.5 The activities in this component will include: i) design features in the platform to generate automatic indicators of students and teachers connected, as well as their performance on the platform; ii) dashboard containing key statistics to analyze how the platform is used by students and teachers that will be updated weekly using the rich data recorded by the learning platform; iii) conduct an impact evaluation of the strategies used to promote use and write a research paper summarizing the main findings; iv) disseminate the findings and lessons learned of implementing this type of program at scale.
- 3.6 The experimental evaluation will be based on a randomization at the school level. The study will include 2 treatment groups. The first treatment will involve the promotion of the use through technological tools (SMS, WhatsApp and notifications). The second treatment will involve promotion of use using the same set of technological tools, plus the assignment of a coordinator for every 50 teachers who will provide training and pedagogical support and motivates teachers to use the platform. These two treatment groups will be compared with a control group in which the teachers will also have access to the platform but where the use promotion interventions will not be implemented.
- 3.7 The findings from this project will be shared through the participation in policy events as well as in academic seminars. In particular, the team will organize a policy event to discuss the main findings and policy implications of the project in collaboration with important partners in the area of technology in education such as the *Alianza para la Digitalización de la Educación en América Latina* supported by the International Development Research Center from the government of Canada. Regarding the participation in academic seminars, the team will present the findings of the project in an internal presentation at the Bank as well as an in external webinar.
- 3.8 The total budget for the project is US\$250,000 financed by the Strategic program for social development (SOC). The indicative budget is detailed in the following table:

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Component I Promoting the use of Conecta Ideas Peru at scale	US\$170,000	US\$0	US\$170,000
Developing Content for the platform for 6 th grade	US\$40,000		US\$40,000

Implementation of teacher support: materials for teachers (training videos), training sessions and pedagogical support	US\$110,000		US\$110,000
Design and implementation of communication strategy to promote Conecta Ideas	US\$20,000		US\$20,000
Component II Monitoring and evaluation of the program	US\$80,000	US\$0	US\$80,000
Impact Evaluation of the program	US\$ 60,000		US\$ 60,000
Publication and dissemination of findings	US\$ 20,000		US\$ 20,000
Total	US\$250,000	US\$0	US\$250,000

IV. Executing Agency and Execution Structure

- 4.1 By request of the Ministry of Education of Peru, this TC will be executed by the Bank. The letter from the client is included as Annex I. The Bank has developed strong expertise in technology for learning from the evaluation in Chile and the implementation of the previous pilot in Lima, Peru. Moreover, the Bank has also edited a book on how to use technology for math learning⁶ and a Technical Note on how to promote effective programs in technology in education⁷. This accumulated expertise will be exploited to ensure a strong implementation of the TC and to ensure that the findings from this project are embedded in future Bank operations, policy dialogue, and are used to promote capacity building in countries in LAC that are seeking to use technology for learning effectively.
- 4.2 Elena Arias Ortiz (SCL/EDU) based in HQ and Carolina Mendez (SCL/EDU) based in Peru will be responsible for the execution of the TC, with technical support from Julian Cristia (RES/RES), in close coordination with the country office in Peru. The team has been implementing directly Conecta Ideas since 2018, collaborating with the Ministry of Education to integrate Conecta Ideas on the Aprendo en casa initiative. The activities in Component I will be executed under the same logic in the same way to avoid any disruption while schools remain closed. In addition, in alignment with GN 2629 Annex 10, execution by the Bank of the evaluation will enhance the independence of the work to be carried out in component II, in this case, the external evaluation.
- 4.3 All activities to be executed under this TC have been included in the Procurement Plan (see Annex IV) and will be contracted in accordance with Bank policies as follows: (a) AM-650 for Individual consultants; (b) GN-2765-4 and Guidelines OP-1155-4 for Consulting Firms for services of an intellectual nature and; (c) GN-2303-28 for logistics and other related services.

V. Project Risks and Issues

⁶ Arias Ortiz, Cristia y Cueto (2020), "[Learning Mathematics in the 21st Century: Adding Technology to the Equation](#)", IDB.

⁷ Arias Ortiz E. y Cristia, J. (2014), "[The IDB and Technology in Education: How to promote Effective Programs?](#)", No. IDB-TN-670. IDB.

- 5.1 One of the major risks is the political change in the country given that general elections are taking place in June 2021. To mitigate the risks, the team works in close coordination with technical staff and stakeholders at the Ministry of Education that have less rotation but also with supervisors in the regional offices to create a broad base of support. In general, there is wide consensus on the need to have quality learning materials and platforms to support teachers, especially in the context of COVID-19 given that most schools will be transitioning from distance education to hybrid or full in person over the academic year. In addition, a large share of expenses in the program to distribute tablets and internet are already included in the annual budget of the government of Peru for 2021, making the need of this content even more critical. A presentation about the project for the authorities in Education is planned once the results of the election are defined.
- 5.2 Given that the program is not compulsory, another potential risk could be a low level of use. To mitigate this risk, we will be stimulating use throughout the academic year using all the evidence that we collected last year about how to get students to connect and to complete more exercises each week. In addition, we will develop a strong marketing campaign at the national level in collaboration with the Ministry. The advantage is that the program is not a pilot and the entire student population in grades 4-6 are potential users, thus, the risk that we have a sample too small to conduct any statistical analysis is low. The platform also allows us to monitor in real time the number of users connected to the platform and thus allows us to implement corrective measures during the year.

VI. Exceptions to Bank policy

- 6.1. No exceptions to Bank policy are foreseen.

VII. Environmental and Social Classification

- 7.1 The TC is not anticipated to have direct environmental or social impacts and has been classified as “C” according to the Safeguard Classification tool (see [Safeguard Policy Filter Report](#) and [Safeguard Screening Form](#)).

Required Annexes:

[Solicitud del Cliente - PE-T1477](#)

[Matriz de Resultados - PE-T1477](#)

[Términos de Referencia - PE-T1477](#)

[Plan de Adquisiciones - PE-T1477](#)