

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

REGIONAL

**AI AND EDUCATION: SCALING TEACHER SUPPORT WITH AI: EVIDENCE FROM CHILE AND
COSTA RICA**

(RG-T4991)

PROJECT DOCUMENT

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REGIONAL AI AND EDUCATION: SCALING TEACHER SUPPORT WITH AI: EVIDENCE FROM CHILE AND COSTA RICA RG-T4991		
PROJECT SUMMARY		
Operation Type:	Technical Cooperation	
Sector:	EDUCATION	
Subsector:	TEACHER EDUCATION &EFFECTIVENESS	
TC Taxonomy:	Research and Dissemination	
Project Number under the Operational Support Taxonomy:	N/A	
Technical Responsible Unit:	SCL/EDU-Education	
Unit with Disbursement Responsibility (UDR):	SCL/EDU-Education	
Executing Agency:	Inter-American Development Bank	
PROJECT OBJECTIVE		
This TC aims to generate rigorous evidence on how artificial intelligence can be leveraged to deliver high-quality, relevant, and cost-effective support to teachers and tutors at scale, ultimately improving educational outcomes in Latin America. Teachers across the region face significant challenges—insufficient preparation, heavy workloads, large class sizes, limited institutional support, and difficult working conditions—that contribute to widespread burnout, declining mental health, and high attrition. While mentoring programs, psychoeducational support, and high-dosage tutoring have shown strong potential to improve teacher wellbeing, instructional quality, and student learning, these approaches remain difficult to scale due to their dependence on trained human providers. AI offers a promising way to augment these interventions without reducing the personalization that drives their effectiveness. This TC adopts a phased strategy: Phase 1 (2026) will design, adapt, and pilot AI-enabled delivery models; Phase 2 (2027) will conduct randomized controlled trials (RCTs) to assess effectiveness, cost-efficiency, and scalability across the region.		
FINANCIAL INFORMATION		
Financing Type	Fund	Amount in US\$
TCN - Nonreimbursable	P3E - OC SDP Pillar 3 - Social Protection and Human Capital Development	400,000
Total IDB Financing		400,000
Counterpart Financing		0
Total Project Budget		400,000
Donors:	N/A	
Disbursement Period:	36 months	
Execution Period:	36 months	
ADDITIONAL FINANCIAL INFORMATION		
N/A		

I. JUSTIFICATION AND OBJECTIVE

- 1.1 **Diagnostic.** Teachers across Latin America and the Caribbean face significant challenges—insufficient preparation, heavy workloads, large class sizes, limited institutional support, and difficult working conditions—that contribute to widespread burnout, declining well-being, and high attrition. The quality of teaching also remains deeply unequal, as students in low-income and underserved communities are disproportionately likely to be taught by under-supported, under-resourced, and less experienced teachers. Mentoring programs, psychoeducational support, and high-dosage tutoring have shown strong potential to improve teacher wellbeing, instructional quality, and student learning, but these approaches are difficult to scale while maintaining quality and impact. This is due to the fact that they depend on highly specialized and intensive human expertise in their delivery, so when they are scaled, they face human capital constraints, declining dosages, implementation fidelity challenges and high marginal costs. Artificial intelligence (AI) offers a promising way to augment these human-intensive interventions without reducing the personalization that drives their effectiveness. However, rigorous evidence on whether AI can scale teacher support without compromising quality or impact is still scarce. This TC addresses that evidence gap by designing, piloting, and rigorously evaluating two complementary AI-enhanced interventions in Chile (teacher socioemotional wellbeing) and Costa Rica (instructional effectiveness through AI-supported tutoring).
- 1.2 **Request.** The Bank is interested in carrying out this Research and Dissemination TC to generate strong relevant evidence at a regional level on how AI can be leveraged to scale high-quality teacher support—an emerging frontier of knowledge prioritized under the IDB Group Institutional Strategy.
- 1.3 **Objective.** The general objective of this TC is to generate rigorous evidence on how AI can be leveraged to deliver high-quality, relevant, and cost-effective support to teachers and tutors at scale, ultimately improving educational outcomes in Latin America and the Caribbean. The specific objectives are to: (i) design, adapt, and pilot AI-enabled delivery models for teacher support in Chile and Costa Rica (Phase 1, 2026–2027); and (ii) rigorously evaluate, through randomized controlled trials (RCTs), the effectiveness, cost-efficiency, and scalability of these models compared to human-only delivery (Phase 2, 2027–2028), implemented on a staggered, country-specific schedule. The expected outcomes are improved teacher wellbeing and intention to remain in the profession in Chile, which evidence shows are ultimately associated with improved student and educational outcomes, and improved tutoring quality and instructional practices in Costa Rica, together with a strengthened regional knowledge base on the use of AI to scale teacher support. This information is consistent with the Project Summary Section.
- 1.4 **Complementarity.** This TC complements the IDB’s broader portfolio of work on teacher quality, education technology, and human capital development in Latin America and the Caribbean. The two interventions address two interconnected dimensions of teacher effectiveness, wellbeing and instructional practice—and together generate evidence that will inform future investments across the region, amplifying the TC’s impact well beyond the two pilot countries. The TC builds the IDB’s research on teacher policies and the teacher career pipeline across LAC.

Previous Bank studies have documented the importance of teacher quality and examined the challenges facing the teacher career pipeline in the region, including difficulties in recruitment, declining prestige of the teaching profession, inadequate professional development opportunities, and concerns about overall teaching quality (Elacqua et al., 2018; Bertoni et al., 2020). Building on this work, the Bank has conducted important research on interventions seeking to improve outcomes along the teacher career continuum, including innovative approaches to teacher selection and assignment using digital platforms and behavioral interventions (Ajzenman et al., 2021) and monetary incentives to attract high-performing teachers to disadvantaged schools (Elacqua et al., 2022), among others.

- 1.5 This TC extends this work through AI-powered innovations, representing the next stage in the Bank's knowledge agenda regarding how to support teachers and improve learning in the region. More specifically, in Chile this project builds directly on prior work carried out by the team exploring how AI can be leveraged to successfully scale a career counseling intervention focused on recruiting more and better candidates into teaching (Ajzenman et al., 2021; Ajzenman et al., forthcoming) through RG-E1957 and RG-T4483. Additionally, this builds on prior work in Chile carried out through CH-T1339 and CH-R1025 exploring how AI can be used to successfully scale a teacher induction and mentoring program in a cost-effective manner (Elacqua et al., 2025). In Costa Rica, the TC builds directly on the high-dosage remote tutoring program launched under the technical cooperation CR-T1278 (Operational Support for the Start-up and Execution of the Program to Improve the Quality of Costa Rica's Education System), which financed the design and proof of concept of the tutoring intervention in coordination with the Ministry of Public Education (MEP) and the associated loan operation CR-L1152 & CR-J0003. This regional TC gives continuity to that tutoring effort, shifting the focus from establishing the delivery model toward strengthening the quality and effectiveness of the tutors themselves through AI-enabled pedagogical feedback, simulated practice, and just-in-time guidance. By integrating generative AI into these proven, human-intensive models, the TC advances the Bank's strategic vision of using innovation and rigorous evidence to strengthen the quality and equity of education systems.
- 1.6 **Strategic Alignment.** This TC is aligned with the IDB Group Institutional Strategy (GN-3159-12) by advancing its core objective of reducing poverty and inequality and the operational focus area of Social Protection and Human Capital Development by targeting unequal access to quality education through better-supported teachers and tutors. By generating, for the first time in the region, experimental evidence on whether AI can scale two human-intensive teacher support models without compromising quality, the TC also reinforces the Strategy's emphasis on maximizing the IDB Group's value as a knowledge bank.
- 1.7 The TC is consistent with the country's strategies of both pilot countries and with the IDB Group's sectoral framework for education. In Chile, the AI-enabled teacher mental health and wellbeing intervention advances the IDB Country Strategy with Chile 2022–2026 (GN-3140-3), Pillar 1 on Promoting Social Cohesion and Inclusion, which emphasizes social development and institutional capacity to

ensure quality education reaches all students. In Costa Rica, the AI-augmented tutoring intervention supports the IDB Country Strategy with Costa Rica 2024–2027 (GN-3250), Pillar 3 on Social Contract Protection, which prioritizes strengthening education and human capital among vulnerable populations. The TC further aligns with the IDB Group's Education and Skills Development Thematic Framework Document 2025–2030 (GN-3012-7), contributing to its Pillar 3 (Increase the quality and relevance of learning)—which identifies teaching quality as the most important school-based factor driving learning and prioritizes both tutoring for disadvantaged students and the strategic integration of AI to enhance instructional quality and support teacher development—and directly responding to its Future Knowledge Agenda, which commits the IDBG to test AI-powered applications for student learning, teacher development, and school management.

- 1.8 This TC is also aligned with the objectives of the Ordinary Capital Strategic Development Program, Pillar 3, Social Protection and Human Capital Development P3E), as it fits squarely by producing rigorous evidence and knowledge products to close priority knowledge gap at the regional and national levels (GN-2819-25).

II. COMPONENTS

- 2.1 **Components.** This TC will finance two components, structured around the two phases of the operation (Phase 1, design and piloting; and Phase 2, scaled-up interventions and RCTs), implemented on a staggered, country-specific schedule across 2026–2028:

- 2.2 **Component I: Design and Piloting of AI-Enabled Delivery Models (2026–2027). (US\$125,000)** This component will finance the design, adaptation, and piloting of AI-enabled teacher support models in Chile and Costa Rica, accompanied by proof-of-concept evaluations. A specialized technology firm will support the development and integration of the AI products, and the work will be carried out in close collaboration with Elige Educar (Chile) and national counterparts (Costa Rica). The following outputs will be produced:

2.2.1 Output 1.1 — Pilot intervention implemented (Chile, 2026, US\$75,000): design, testing, and piloting of an AI-augmented hybrid delivery model that integrates generative AI into the Somos Profes Somos Educadores (SPSE) program, reaching approximately 250 teachers who in turn reach a total of approximately 6,250 students, accompanied by a proof-of-concept evaluation to explore preliminary effectiveness, feasibility, and trade-offs. This output will finance the contracting of a specialized technology firm to design, develop and implement the pilot AI-augmented component of the intervention.

2.2.2 Output 1.2 — Pilot intervention implemented (Costa Rica, 2027, US\$50,000): design, development, and piloting of an AI-augmented support model that provides tutors with pedagogical feedback, simulated practice, and just-in-time guidance, reaching approximately 500 students, 45 tutors, and 20 schools, accompanied by a proof-of-concept evaluation of feasibility, usability, tutor adoption, and preliminary effects on tutoring quality. This output is going to finance a technology firm to develop AI-augmented tool for tutors in Costa Rica.

- 2.3 **Component II: Scaled-up Interventions and Randomized Controlled Trials (RCTs) (2027–2028). (US\$275,000)** This component will co-finance the scaled-up interventions and their rigorous evaluation through randomized controlled trials (RCTs), generating experimental evidence on effectiveness, cost-efficiency, and scalability. The following outputs will be produced:

2.3.1 Output 2.1 — Experimental impact evaluation performed (Chile, 2027, US\$120,000): an RCT of the scaled-up hybrid delivery model of Somos Profes, Somos Educadores, comparing it to the human-only model, reaching approximately 3,000 teachers over the 2027 calendar year, who in turn reach almost 75,000 students (April–November). This output will finance a specialized technology firm to improve and implement the technological components of the RCT, as well as an implementation firm to carry out the core programmatic intervention of the Somos Profes, Somos Educadores program.

2.3.2 Output 2.2 — Experimental impact evaluation performed (Costa Rica, 2028, US\$145,000): an RCT of the scaled-up AI-augmented tutoring support model evaluating its effectiveness in improving tutoring quality and instructional practices, building on the lessons learned from the 2027 pilot, this pilot is going to reach approximately 1,000 students, 120 tutors, and 50 schools. This output is going to finance a research firm to implement a large-scale RCT of hybrid AI-augmented tool for tutors in Costa Rica.

2.3.3 Output 2.3 Webinars – (Costa Rica, Chile, US\$10,000): Two virtual seminars in the form of webinars will be carried out in 2028 to share results and lessons learned from the TC and to disseminate relevant findings and implications for other countries in the region.

- 2.4 **Expected Results.** The expected result of this TC is a strengthened regional knowledge base on how AI can be effectively integrated into human-intensive teacher support programs to deliver high-quality, cost-effective support at scale. In Chile, the intervention is expected to increase teacher wellbeing, emotional engagement, self-efficacy, and intention to remain in the profession. In addition, the intervention is expected to contribute indirectly to improved student learning outcomes, by improving teachers' self-efficacy and well-being. In Costa Rica, the intervention is expected to improve tutors' instructional quality, pedagogical confidence, use of data-informed practices, and engagement with AI-enabled supports. These results will be achieved through the design and piloting of two AI-enabled delivery models and two randomized controlled trials. In addition, the intervention is expected to contribute indirectly to improved student learning outcomes among students participating in the tutoring program, as measured by changes in performance between baseline and endline assessments.

- 2.5 **Beneficiaries.** Direct beneficiaries are the teachers participating in the Chile intervention (approximately 250 in the pilot and 3,000 in the RCT) and the tutors participating in the Costa Rica intervention (approximately 45 tutors in the pilot and 120 tutors in the RCT). Final beneficiaries are the students who receive higher-quality and more continuous instruction and tutoring as a result of better-supported teachers and tutors. In Chile, this number totals approximately 6,250 students for the pilot and 75,000 students for the RCT; in Costa Rica, 500 students in the pilot and 1,000 students in the RCT. Additional indirect beneficiaries include the

education policymakers and practitioners across the region who will benefit from the evidence and knowledge products generated by this TC. Chile was selected based on the team's prior collaborative work with Elige Educar, the implementing NGO, focused on using AI in education to support the scaling of teacher support programs (under operations RG-E2057, RG-E2088, and RG-E1957). This prior experience provided the team with deep knowledge of Elige Educar's programs and delivery model, as well as established relationships and technical infrastructure, creating a strong foundation for designing and evaluating an AI-augmented version of the SPSE program at scale. Costa Rica, for its part, was the most recent country in the region to implement tutoring as a proof of concept (under operation CR-T1278); its results pointed to improvements in learning outcomes while also revealing significant variability across tutors, and this combination of prior experience, results valued by the government, and tutor-level variability created a clear opportunity to carry out a pilot. Furthermore, Costa Rica is currently preparing a new operation, expected to reach eligibility in the near term and including a tutoring component, which makes this an opportune moment to test and refine innovations that could subsequently be incorporated into a larger-scale intervention.

III. BUDGET

- 3.1 **Budget.** The total cost of this TC is US\$400,000, financed entirely by the IDB through the OC SDP Pillar 3 – Social Protection and Human Capital Development (P3E) fund. Resources will be allocated across two components, as detailed in the Indicative Budget table below.

Components	P3E	Total
Component I: Design and piloting of AI-enabled delivery models	US\$125,000	US\$125,000
Component II: Scaled-up interventions and Randomized Controlled Trials (RCTs)	US\$275,000	US\$275,000
Total	US\$400,000	US\$400,000

IV. EXECUTION STRUCTURE

- 4.1 The TC will be executed by the Inter-American Development Bank (IDB), based on a request by the beneficiaries, in accordance with the Bank's Technical Cooperation Policy (GN-2470-2) and the Procedures for the Processing of Technical Cooperation Operations and Related Matters (OP-619-4), through the Education Division (SCL/EDU).

- 4.2 **Institutional Capacity.** The IDB's Education Division (SCL/EDU) has extensive experience managing Bank-executed Technical Cooperations and rigorous impact evaluations in the education sector across Latin America and the Caribbean. The fiduciary risk associated with this operation is considered low, given the Bank's internal controls, procurement policies, and monitoring systems. All procurement will be subject to the Bank's applicable review procedures.
- 4.3 **Procurement.** All procurement to be executed under this Technical Cooperation have been included in the Procurement Plan (Annex IV) and will be hired in compliance with the applicable Bank policies and regulations as follows: (a) Hiring of individual consultants, as established in the regulation on Complementary Workforce (AM-650) and (b) Contracting of services provided by consulting firms in accordance with the Corporate procurement Policy (GN-2303-33) and its Guidelines.
- 4.4 **Non-Competitive Method: Single Source Selection.** Under Component 1, the firm Patagonian Sys will be hired through direct contracting to lead the design, development, and piloting of the AI-powered chatbot for the teacher wellbeing program in Chile. This direct contracting is justified in accordance with the Corporate procurement Policy (GN-2303-33) and its Guidelines because: i) the work builds directly on Patagonian's prior experience, including in collaboration with the NGO Elige Educar; and ii) Patagonian is the only vendor that combines proven technical capability for building generative-AI chatbots with existing WhatsApp delivery infrastructure tailored to the Chilean education context, and that also has established working relationships with both the IDB and Elige Educar—qualifications needed to integrate AI into SPSE effectively, reliably and quickly. Under Component 2, Patagonian Sys will be contracted on the same grounds to lead the adjustment, implementation, and deployment of the large-scale RCT of the chatbot in Chile. Also under Component 2, the NGO Elige Educar will be directly contracted to implement the SPSE program. This direct contracting is justified in accordance with the Corporate procurement Policy (GN-2303-33) and its Guidelines because: i) the contract amount is under \$50,000 USD, and ii) Elige Educar is the owner and sole implementer of the SPSE program and therefore has unique qualifications to carry out the work.
- 4.5 **Execution and Disbursement Period.** The execution and disbursement period for this TC is 36 months from the date of approval. Disbursements will be distributed across the implementation period in accordance with the phased, staggered schedule (2026–2028) established in the Results Matrix and the Procurement Plan.
- 4.6 **Monitoring, Reporting, and Supervision.** The Education Division (SCL/EDU) will have overall responsibility for the direction, supervision, coordination, and evaluation of this TC. Gregory Elacqua (SCL/EDU) will serve as Team Leader and designated focal point responsible for execution, supported by Pablo Zoido (SCL/EDU) as Alternate Team Leader. Monitoring and reporting will be carried out through the Technical Cooperation Monitoring and Reporting System (TCM). Given the operation's size and Bank-executed nature, financial reporting and

supervision will follow the Bank's standard procedures for Bank-executed operations, and no audit is required for this operation.

V. POTENTIAL RISKS

5.1 The following risks have been identified:

5.1.1 There is a risk that the AI products developed do not reach the expected level of quality or usability for teachers and tutors, or that they do not reach the needed levels of take-up, adoption and engagement by teachers and tutors. To mitigate this risk, specialized technology firms will support development and integration, and proof-of-concept evaluations in 2026 will validate feasibility, usability, and adoption before scaling. Additionally, both AI models will be integrated into existing, trusted programs (the Somos Profes Somos Educadores program in Chile and ongoing tutoring in Costa Rica) and designed in close collaboration with implementing partners to preserve personalization.

5.1.2 A risk associated with the RCTs is that AI-driven solutions may raise ethical concerns, such as data privacy and algorithmic bias. To mitigate this risk, the TC will follow applicable data protection standards and incorporate safeguards for the responsible use of AI in the design of both interventions.

5.1.3 A third and final risk consists of implementation delays that could compress the 2027 RCT timeline. To mitigate this risk, the phased design allows the 2026 pilots to de-risk the 2027 RCTs, and the Procurement Plan provides for early procurement of key services.

5.2 Intellectual Property. All deliverables and any other material prepared under this TC are the sole and exclusive property of the Bank, which holds title and rights (including copyrights) in such works. Knowledge products resulting from this TC will be published under a Creative Commons IGO 3.0 Attribution-NonCommercial-NoDerivatives license. At the specific request of the implementing partners and in accordance with the provisions of document AM-331, the intellectual property rights to such products may also be licensed through specific contractual agreements drafted with the guidance of the Legal Department.

VI. EXCEPTIONS TO BANK POLICIES

6.1 No exceptions have been identified to the applicable Bank policies.

VII. ENVIRONMENTAL AND SOCIAL ASPECTS

7.1 This Technical Cooperation is not intended to finance pre-feasibility or feasibility studies of specific investment projects or environmental and social studies associated with them; therefore, this TC does not have applicable requirements of the Bank's Environmental and Social Policy Framework (ESPF).

REQUIRED ANNEXES:

- Annex I: Results Matrix
- Annex II: Terms of Reference
- Annex III: Procurement Plan
- Annex IV: GDI Checklist