

Terms of Reference – FIRM 1

TERMS OF REFERENCE

CONSULTANCY TO EVALUATE TEACHERS' ALLOCATION SYSTEMS

Peru

PE-T1447

New Technologies to Improve Equity and Efficiency in Teacher Assignment in Peru

1. Background and Justification

- 1.1. The Inter-American Development Bank works to improve lives in Latin America and the Caribbean. Through financial and technical support for countries working to reduce poverty and inequality, we help improve health and education, and advance infrastructure. Our aim is to achieve development in a sustainable, climate-friendly way. With a history dating back to 1959, today we are the leading source of development financing for Latin America and the Caribbean. We provide loans, grants, and technical assistance; and we conduct extensive research. We maintain a strong commitment to achieving measurable results and the highest standards of increased integrity, transparency, and accountability.
- 1.2. The Social Sector (SCL) is a multidisciplinary team convinced that investing in people is the way to improve lives and overcome the development challenges in Latin America and the Caribbean. Jointly with the countries in the region, the Social Sector formulates public policy solutions to reduce poverty and improve the delivery of education, work, social protection, and health services. The objective is to advance a more productive region, with equal opportunities for men and women, and greater inclusion of the most vulnerable groups.
- 1.3. The Education Division supports education systems of Latin America and the Caribbean countries to reach five dimensions that will contribute to making them successful in promoting effective teaching and learning among all children and youth. The IDB's private sector window also finances projects to expand educational opportunities for low-income students.

We support Latin American and Caribbean countries to ensure that:

- a) High expectations guide education services
 - b) Students entering the system are ready to learn
 - c) All students have access to effective teachers
 - d) All schools have adequate resources and are able to use them for learning
 - e) All graduates have the necessary skills to succeed in the labor market and contribute to society
- 1.4. The COVID-19 pandemic is likely to generate significant learning losses and widen socioeconomic learning gaps in Latin America and the Caribbean (BID, 2021). In a region historically affected by unequal access to quality education, the economic and health crisis of the pandemic will increase

these inequalities as many children, especially the vulnerable, have not been able to access education due to lack of distance learning systems, digital infrastructure, and teachers' digital capabilities. To mitigate the negative impact on learning, it will be fundamental to identify, train, select, and allocate good teachers (BID, 2018).

- 1.5. In several LAC countries, the assignment of teachers to schools is inefficient and not transparent. Only government officials know how the “black box” of the system works, and teacher assignment systems often do not provide teachers with enough information on the available vacancies to allow them to make informed decisions. Teachers are more likely to be dissatisfied with their assigned school if they do not have enough information about their options, which can impact their effectiveness in the classroom (Jackson, 2012). Moreover, lack of information about vacancies also creates imbalances in supply and demand for teaching staff. For example, in Peru, more than one quarter of vacancies remain unfilled after the teacher selection process and most of these vacancies are in disadvantaged schools.
- 1.6. This consultancy is part of a set of activities that are needed for the designing of improvements to the current teacher allocation system in Peru. Among these activities, we need to thoroughly evaluate the current system and compare it to successful teacher allocations systems globally.

2. Objectives

- 2.1. Teacher allocation in Latin America and the Caribbean is unequal. Empirical evidence shows that high-performing teachers are assigned to more advantaged students and that disadvantaged students are more likely to experience the adverse effects of teacher shortages and turnover related to unequal teacher distributions across schools. In addition, the assignment of teachers to schools tends to be inefficient and not transparent. Teacher assignment systems often do not provide teachers with enough information on the available vacancies to allow them to make informed decisions. This lack of information about vacancies creates imbalances in supply and demand for teaching staff. For example, in Peru, more than one quarter of vacancies remain unfilled after the teacher selection process and most of these vacancies are in disadvantaged schools.
- 2.2. In order to improve the efficiency, transparency, and equity of school assignment systems, several countries have implemented centralized systems. A centralized system is a mechanism administered by a government agency, which collects the scores and preferences of teachers (e.g., an ordered list of preferred schools), to later apply a mathematical algorithm that processes these scores and preferences and assigns school positions. These centralized systems provide a unique opportunity to use new technologies such as Artificial Intelligence (AI) and Machine Learning (ML) to improve the allocation process and its outcomes. This project aims to use AI and ML to provide relevant information to teachers about their schooling options. AI and behavioral strategies can be used to nudge teachers to consider other relevant options in their choice set, making the assignment of teachers more transparent, equitable, and efficient and improving

match quality and satisfaction.

- 2.3. Behavioral techniques can improve efficiency and equity in teacher allocation, yet there is significant room for improvement. For example, the Peruvian initial experience showed unsatisfactory user experience with the online platform; while some teachers could not visualize the available vacancies, others could not find the monetary incentives offered for different types of schools. This type of situations creates barriers for effective teacher assignment and may produce suboptimal choices that could generate inefficiencies in teacher allocation.
- 2.4. To design successful interventions and changes to the current platform, it is necessary to develop a detailed and complete evaluation of the current Peruvian system and other allocation systems powered by effective technological platforms. Therefore, this consultancy will develop two technical studies: i) a technical study of the current mechanism of teacher allocation in Peru, and ii) a technical study of the Effectiveness of technological platforms used to allocate teachers in Peru.

3. Scope of Services

- 3.1. The selected candidate will develop research studies that allow evaluating the current teacher allocation system and the effectiveness of digital solutions. To do this, the consulting firm must develop an evaluation methodology and prepare, in conjunction with the IDB's education division, technical reports that serve as input for future interventions of these systems in the region.

4. Key Activities

- 4.1. The principal tasks and activities that the consulting firm must fulfill are:
 - a) Develop a literature review on centralized teacher allocation systems, which serve as input for the final technical reports.
 - b) Prepare a quantitative and qualitative methodology for evaluating the current Peruvian system and other centralized technological allocation systems. The evaluation methodology must consider the nature of the intervention we want to implement, the objective they had, and use as inputs the data collected by the IDB during past interventions in Peru.
 - c) Apply the proposed methodology for evaluating the systems and obtain results that allow proposing positive changes to the Minister.
 - d) Participate in meetings with the IDB team and the Ministry of Education to identify the needs of the teams and receive feedback on the progress of the products.
 - e) Prepare two technical reports that contain at least each of the points mentioned above and others suggested by the responsible person.

5. Expected Outcome and Deliverables

5.1. *Following the previous activities, the expected deliverables are:*

Deliverable 1: A report containing the proposed structure (outline) for the evaluation of the current mechanism of teacher allocation in Peru, also containing a proposed methodology. The proposal must be agreed upon with the IDB person responsible for the project.

Deliverable 2: A report containing the proposed structure (outline) for the evaluation of the effectiveness of technological platforms used to allocate teachers, also containing a proposed methodology. The proposal must be agreed upon with the IDB person responsible for the project.

Deliverable 3: A technical report that evaluates the current mechanism of teacher allocation in Peru. The report must have the approval and collaboration of the IDB team in charge of the intervention.

Deliverable 4: A technical report that evaluates the effectiveness of technological platforms used to allocate teachers. The report must have the approval and collaboration of the IDB team in charge of the intervention.

6. Project Schedule and Milestones

Deliverable	Project Schedule
1. Deliverable #1	September 1st, 2021
2. Deliverable #2	November 1st, 2021
3. Deliverable #3	January 1st, 2022
4. Deliverable #4	February 1st, 2022

7. Payment Schedule

7.1. Payments will be made once the process of review, validation, and incorporation of corrections and comments for each product has been completed and received in accordance with the IDB.

Payment Schedule	
<i>Deliverable</i>	%
1. Deliverable 1	20%
2. Deliverable 2	20%
3. Deliverable 3	30%

4. Deliverable 4	30%
TOTAL	100%

8. Reporting Requirements

8.1. All reports must be submitted in Spanish.

9. Acceptance Criteria

9.1. Reports must be submitted to the Bank in an electronic file. The reports should include cover, main document, and all annexes.

9.2. A product is only formally accepted and valid for payment after the written approval by the supervisor.

10. Supervision

10.1 The firm will be reporting to the technical cooperation core team: Gregory Elacqua, Education Chief Economist (EDU / CEC) and by Carolina Méndez, Education Specialist (EDU / CEC).

10.2 Periodic meetings are expected to inform on the progress of the consultancy.

10.3 The technical cooperation core team is responsible for providing comments and feedback on the professional development module.

Terms of Reference – PEC 1

Job Title:

[Education Division](#) Economic Consultant for the PE-T1447: New Technologies to Improve Equity and Efficiency in Teacher assignment in Peru.

Background of this search:

The objective of the consultancy is to support the improves in centralized teacher allocation in Peru, specifically through the preparation of a report with the recommendations to the Peruvian government for front-end and back-end improvements of the national teacher allocation system, for the Education Division.

The team's mission:

[The Social Sector \(SCL\)](#) is a multidisciplinary team convinced that investing in people is the way to improve lives and overcome the development challenges in Latin America and the Caribbean. Jointly with the countries in the region, the Social Sector formulates public policy solutions to reduce poverty and improve the delivery of education, work, social protection, and health services. The objective is to advance a more productive region, with equal opportunities for men and women, and greater inclusion of the most vulnerable groups.

The IDB Group helps Latin American and Caribbean countries promote skills development and lifelong learning as a strategy to ensure that citizens can contribute productively to society, improve their well-being, and be good citizens. To this end, it works with the countries of the region in [five lines of action](#):

- (i) ensure that people have equitable access to relevant, high-quality learning opportunities throughout their lives;
- (ii) strengthen quality and relevance assurance mechanisms;
- (iii) consolidate and develop better financing and co-financing mechanisms to improve the efficiency, effectiveness, and coverage of skills development opportunities;
- (iv) take advantage of the use of technology to increase equity and access to skills development opportunities and improve the efficiency of skills development systems; and
- (v) actively promote the generation and use of evidence to inform decisions about skills development.

What you'll do:

1. Support the research agenda of the Division, specifically in studies related to teacher allocation systems, and support the evaluation process of the current teacher allocation system in Peru.
2. Elaborate a report with the recommendations to the Peruvian government for front-end and back-end improvements of the national teacher allocation system.
3. Comment, review, and, if necessary, produce documents for the implementation of recommendations for a centralized system for assigning teachers.
4. Other tasks that the coordinator identifies and are needed to achieve the objectives expected from the consultancy.

Deliverables Payments timeline:

	Deliverable Description	Est. Date of delivery	% of Payment
#1	First draft of the report with recommendations	February 1 st , 2023	30%
#2	Final report with the recommendations to the Peruvian government for front-end and back-end improvements of the national teacher allocation system	December 15 th , 2023	70%

What you'll need:

- **Citizenship:** You are a citizen of one of our 48-member countries
- **Consanguinity:** You have no family members (up to fourth degree of consanguinity and second degree of affinity, including spouse) working at the IDB Group
- **Education:** Master's Degree in Economics, Public Policy, Public Administration or in a similar field, PhD degree preferred
- **Experience:** Master's and at least 5 years of experience
- **Languages:** Fluent in Spanish and English

Core and Technical Competencies:

- Strong research background and strong analytical abilities, as demonstrated by academic and other professional achievements are required. The candidate should have a deep knowledge of teacher allocation literature.
- Superior organizational, coordination and logistical skills, with ability to look ahead, address and prioritize a wide range of issues and activities for timely completion; a proven ability to take initiative and work independently, and to work in a dynamic fast-paced work environment.
- Proven ability to work effectively in complex, multi-disciplinary and multi-cultural teams; superior interpersonal skills, client-orientation, diplomatic skills, and mature judgment as well as sensitivity to social and cultural issues.
- A proven ability to write brief, clear and analytical reports and concise discussion notes and presentations.

Opportunity Summary:

- **Type of contract:** Product and External Services (PEC), Lump Sum
- **Length of contract:** 100 days in 6 months
- **Starting date:** January 2023
- **Location:** External
- **Responsible person:** Gregory Elacqua, Principal Economist SCL/EDU
- **Requirements:** You must be a citizen of one of the IDB's 48 member countries and have no family members currently working at the IDB Group
- **Travel Requirement:** No, travel will not be required.

Our culture: Our people are committed and passionate about improving lives in Latin-America and the Caribbean, and they get to do what they love in a diverse, collaborative and stimulating work environment. We are the first Latin American and Caribbean development institution to be awarded the EDGE certification, recognizing our strong commitment to gender equality. As an employee you can be part of internal resource groups that connect our diverse community around common interests.

Because we are committed to providing equal opportunities in employment, we embrace all diversity and encourage women, LGBTQ+, persons with disabilities, afro-descendants, and indigenous people to apply.

About us: At the IDB, we're committed to improving lives. Since 1959, we've been a leading source of long-term financing for economic, social, and institutional development in Latin America and the Caribbean. We do more than lending though. We partner with our 48-member countries to provide Latin America and the Caribbean with cutting-edge research about relevant development issues, policy advice to inform their decisions, and technical assistance to improve on the planning and execution of projects. For this, we need people who not only have the right skills, but also are passionate about improving lives.

Our team in Human Resources carefully reviews all applications.

Terms of Reference – FIRM 2

TERMS OF REFERENCE

CONSULTANCY TO DEVELOP AND MODIFY STRUCTURAL CHANGES IN THE TEACHER ALLOCATION PLATFORM IN PERU

Peru

PE-T1447

New Technologies to Improve Equity and Efficiency in Teacher Assignment in Peru

1. Background and Justification

- 1.1. The Inter-American Development Bank works to improve lives in Latin America and the Caribbean. Through financial and technical support for countries working to reduce poverty and inequality, we help improve health and education, and advance infrastructure. Our aim is to achieve development in a sustainable, climate-friendly way. With a history dating back to 1959, today we are the leading source of development financing for Latin America and the Caribbean. We provide loans, grants, and technical assistance; and we conduct extensive research. We maintain a strong commitment to achieving measurable results and the highest standards of increased integrity, transparency, and accountability.
- 1.2. The Social Sector (SCL) is a multidisciplinary team convinced that investing in people is the way to improve lives and overcome the development challenges in Latin America and the Caribbean. Jointly with the countries in the region, the Social Sector formulates public policy solutions to reduce poverty and improve the delivery of education, work, social protection, and health services. The objective is to advance a more productive region, with equal opportunities for men and women, and greater inclusion of the most vulnerable groups.
- 1.3. The Education Division supports education systems of Latin America and the Caribbean countries to reach five dimensions that will contribute to making them successful in promoting effective teaching and learning among all children and youth. The IDB's private sector window also finances projects to expand educational opportunities for low-income students.

We support Latin American and Caribbean countries to ensure that:

- a) High expectations guide education services
 - b) Students entering the system are ready to learn
 - c) All students have access to effective teachers
 - d) All schools have adequate resources and are able to use them for learning
 - e) All graduates have the necessary skills to succeed in the labor market and contribute to society
- 1.4. The COVID-19 pandemic is likely to generate significant learning losses and widen socioeconomic learning gaps in Latin America and the Caribbean (BID, 2021). In a region historically affected by

unequal access to quality education, the economic and health crisis of the pandemic will increase these inequalities as many children, especially the vulnerable, have not been able to access education due to lack of distance learning systems, digital infrastructure, and teachers' digital capabilities. To mitigate the negative impact on learning, it will be fundamental to identify, train, select, and allocate good teachers (BID, 2018).

- 1.5. In several LAC countries, the assignment of teachers to schools is inefficient and not transparent. Only government officials know how the “black box” of the system works, and teacher assignment systems often do not provide teachers with enough information on the available vacancies to allow them to make informed decisions. Teachers are more likely to be dissatisfied with their assigned school if they do not have enough information about their options, which can impact their effectiveness in the classroom (Jackson, 2012). Moreover, lack of information about vacancies also creates imbalances in supply and demand for teaching staff. For example, in Peru, more than one quarter of vacancies remain unfilled after the teacher selection process and most of these vacancies are in disadvantaged schools.
- 1.6. This consultancy is part of a set of activities that are related to the professional development module and the use of behavioral strategies to strengthen the centralized teacher allocation system in Peru.

2. **Objectives**

- 2.1. Teacher allocation in Latin America and the Caribbean is unequal. Empirical evidence shows that high-performing teachers are assigned to more advantaged students and that disadvantaged students are more likely to experience the adverse effects of teacher shortages and turnover related to unequal teacher distributions across schools. In addition, the assignment of teachers to schools tends to be inefficient and not transparent. Teacher assignment systems often do not provide teachers with enough information on the available vacancies to allow them to make informed decisions. This lack of information about vacancies creates imbalances in supply and demand for teaching staff. For example, in Peru, more than one quarter of vacancies remain unfilled after the teacher selection process and most of these vacancies are in disadvantaged schools.
- 2.2. In order to improve the efficiency, transparency, and equity of school assignment systems, several countries have implemented centralized systems. A centralized system is a mechanism administered by a government agency, which collects the scores and preferences of teachers (e.g., an ordered list of preferred schools), to later apply a mathematical algorithm that processes these scores and preferences and assigns school positions. These centralized systems provide a unique opportunity to use new technologies such as Artificial Intelligence (AI) and Machine Learning (ML) to improve the allocation process and its outcomes. This project aims to use AI and ML to provide relevant information to teachers about their schooling options. AI and behavioral strategies can be used to nudge teachers to consider other relevant options in their choice set,

making the assignment of teachers more transparent, equitable, and efficient and improving match quality and satisfaction.

- 2.3. Behavioral techniques can improve efficiency and equity in teacher allocation, yet there is significant room for improvement. For example, the Peruvian initial experience showed unsatisfactory user experience with the online platform; while some teachers could not visualize the available vacancies, others could not find the monetary incentives offered for different types of schools. This type of situations creates barriers for effective teacher assignment and may produce suboptimal choices that could generate inefficiencies in teacher allocation.
- 2.4. The general objective of this consultancy is to strengthen both the centralized teacher allocation system and the user experience aspect of the platform in Peru.

3. Scope of Services

- 3.1. The selected candidate will develop and implement the software changes to the current Peruvian teacher allocation system, which allows assigning teachers to schools according to the teachers' preferences, the policy objectives, and the priorities defined in the system. Without being an exhaustive list, the most essential tasks and functions that the consulting firm must fulfill are:
- a) Define, together with the Peruvian Education Ministry, the functional requirements of the platform.
 - b) Define the assessments and improvements in the mechanisms for teacher assignment
 - c) Develop with the government agreement, the modifications to the base platform and those additional components that allow a correct implementation in the technological systems in Peru. The Improvements in the front-end technology used to assign teachers should include:
 - Further exploration of behavioral strategies to motivate teachers to work in more disadvantaged schools.
 - Introduction of changes in the teacher assignment platform able to enhance user experience in order to increase transparency and efficiency in teacher assignment.
 - Introduction of new technologies, such as artificial intelligence and machine learning, to improve equity and efficiency in the allocation process and increase teacher satisfaction with their final allocation.
 - d) Define with the government the technical architecture documentation of the platform and how it will be developed.
 - e) Define with the government a work schedule based on the requirements agreed in the previous points.
 - f) Collaborate in the installation and start-up of the solution, as well as accompanying support during the pilots. The consulting firm will manage and provide support during the installation and first implementation of the platform and after it if there is a need to make changes to adjustments within the framework of what is described in these TOR.

- g) Prepare documentation that supports, explains, and allows for the operation and maintenance of the platform and the personalized assistance elements. This includes providing training (either through videoconference or face-to-face) to the designated teams in charge of the implementation and operation of the platform.
- h) Provide a guarantee of the services given for the period in which the pilots are executed. Including support to the Ministry, corrections to the source code and errors in the construction and implementation of any component developed.

4. Expected Outcome and Deliverables

4.1. *Following the previous activities, the expected deliverables are:*

Deliverable 1: Workplan for the development of the platform. This report describes the methodological approach to developing the services, the inputs needed for it (including activities, times, and participants), and a detailed timetable that includes all activities and the submission of all deliverables included in the current Terms of Reference.

Deliverable 2: Document that specifies the functional and technical details agreed with the Ministry of Education for the implementation of modifications of their platform, allowing better information to be delivered to applicants about educational institutions and their probability of assignment, as well as to officials on the progress of the application process, eventual congestion points, among others. This report must include the platform architectural documentation and final schedule, including the development and implementation activities of the solution, considering implementation phases with their respective deliveries.

Deliverable 3: A report documenting the implementation and testing of at least 50% of the functional and non-functional requirements for the platform.

Deliverable 4: Final report documenting the implementation and testing of 100% of the functional and non-functional requirements for the platform. This should include the transfer of the source code and the operational manuals.

5. Project Schedule and Milestones

Deliverable	Project Schedule
5. Deliverable #1	December 1st, 2023
6. Deliverable #2	February 1st, 2024
7. Deliverable #3	September 1st, 2024
8. Deliverable #4	December 1st, 2024

6. Payment Schedule

6.1. Payments will be made once the process of review, validation, and incorporation of corrections and comments for each product has been completed and received in accordance with the IDB.

Payment Schedule	
<i>Deliverable</i>	%
5. Deliverable 1	20%
6. Deliverable 2	20%
7. Deliverable 3	30%
8. Deliverable 4	30%
TOTAL	100%

7. Reporting Requirements

7.1. All reports must be submitted in English.

8. Acceptance Criteria

8.1. Reports must be submitted to the Bank in an electronic file. The reports should include cover, main document, and all annexes. Zip files will be accepted for the code source.

8.2. A product is only formally accepted and valid for payment after the written approval by the supervisor.

9. Other Requirements

9.1. The firm must have expertise in matters of technological innovations in the education sector. Additionally, the team must be led by at least one senior expert with extensive experience in research on education issues and knowledge on the design of mechanisms applied to the educational system. Additionally, the team must have personnel trained in efficient programming of the matching algorithm and database management.

10. Supervision

10.1. The firm will be reporting to the technical cooperation core team: Gregory Elacqua, Education Chief Economist (EDU / CEC) and by Carolina Méndez, Education Specialist (EDU / CEC).

10.2. Periodic meetings are expected to inform on the progress of the consultancy.

10.3. The technical cooperation core team is responsible for providing comments and feedback on the professional development module.

Terms of Reference – PEC 2

Job Title:

[Education Division](#) Economic Consultant for the PE-T1447: New Technologies to Improve Equity and Efficiency in Teacher assignment in Peru.

Background of this search:

The objective of the consultancy is to provide a consultancy to support the design and implementation of strengths of centralized teacher allocation system in Peru, and the preparation of the market and behavioral interventions to be implemented and thus, contribute to the research agenda in education policy, and allocation of teachers with a focus in Peru for the Education Division.

The team's mission:

[The Social Sector \(SCL\)](#) is a multidisciplinary team convinced that investing in people is the way to improve lives and overcome the development challenges in Latin America and the Caribbean. Jointly with the countries in the region, the Social Sector formulates public policy solutions to reduce poverty and improve the delivery of education, work, social protection, and health services. The objective is to advance a more productive region, with equal opportunities for men and women, and greater inclusion of the most vulnerable groups.

The IDB Group helps Latin American and Caribbean countries promote skills development and lifelong learning as a strategy to ensure that citizens can contribute productively to society, improve their well-being, and be good citizens. To this end, it works with the countries of the region in [five lines of action](#):

- (i) ensure that people have equitable access to relevant, high-quality learning opportunities throughout their lives;
- (ii) strengthen quality and relevance assurance mechanisms;
- (iii) consolidate and develop better financing and co-financing mechanisms to improve the efficiency, effectiveness, and coverage of skills development opportunities;
- (iv) take advantage of the use of technology to increase equity and access to skills development opportunities and improve the efficiency of skills development systems; and
- (v) actively promote the generation and use of evidence to inform decisions about skills development.

What you'll do:

1. Work on the research agenda of the Division, specifically on studies related to teacher allocation systems and school resource allocation.
2. Support the design, implementation, and evaluation of AI and behavioral strategies in centralized assignment systems for teachers in Peru.
3. Collaborate in the data collection and construction of the necessary databases to implement the centralized allocation pilots.

4. Coordinate, plan, and participate in meetings with the IDB team, the Ministry of Education of Peru, and other institutions to identify the needs of the teams.
5. Comment, review, and, if necessary, produce documents for the implementation of a pilot of a centralized system for assigning teachers.
6. Advise the IDB team in technical meetings.

Deliverables Payments timeline:

	Deliverable Description	Est. Date of delivery	% of Payment
#1	Workplan that establishes a timeline and actions to implement the two pilots to test teachers' user experience	March 30th, 2024	25%
#2	Proposal for the data collection and construction of databases to implement the centralized allocation pilots	August 30 th , 2024	25%
#3	Report that describes the stages of the pilots, allocation rules and algorithm of the allocation processes, and AI and behavioral strategies to be implemented	November 30th, 2024	25%
#4	Report of the implementation of two pilots for the centralized system for assigning teachers. This report must include: (i) an analysis of the results of the pilot for the centralized system for assigning teachers; (ii) a power point presentation with explanations of the process and final results; and (iii) an excel file with the database of the demand, supply and final selection	March 30 th , 2025	25%

What you'll need:

Citizenship: You are a citizen of one of our 48-member countries. We may help with relocation and visa applications for you and your eligible dependents.

Consanguinity: You have no family members (up to fourth degree of consanguinity and second degree of affinity, including spouse) working at the IDB Group.

Education: Master's degree in Economics, Public Policy, Public Administration, Education or in a similar field. PhD degree preferred.

Experience: Master's and at least 5 years of experience

Languages: Fluent in English and Spanish.

Core and Technical Competencies:

- Relevant professional experience in public policy, educational policy, political economy, or equivalent combination of education and experience.
- Strong research backgrounds and strong analytical skills, especially in educational policy and public policy areas. The candidate should have the ability to understand and use theoretical and econometric tools of economic analysis.
- Extensive experience manipulating datasets using STATA or other equivalent software, and experience in evaluation techniques and methodologies. Knowledge of other program languages like Python, R and ArcGIS is desirable
- Demonstrable ability to organize complex projects and abilities to use project management tools, and skills for planning and structuring meetings with authorities
- Ability to work independently, and to respond to the consulting requirements. The candidate must possess diplomatic skills and mature judgment, as well as sensitivity to social and cultural issues.
- Verifiable ability to write short, clear, analytical reports, technical notes, and concise presentations.

Opportunity Summary:

- **Type of contract:** Product and External Services (PEC), Lump Sum
- **Length of contract:** 120 days in a period of 12 months
- **Starting date:** 1st of January 2024
- **Location:** External
- **Responsible person:** Elacqua, Gregory *Principal Education Economist* SCL/EDU
- **Requirements:** You must be a citizen of one of the IDB's 48 member countries and have no family members currently working at the IDB Group.
- **Travel Required:** No

Our culture: Our people are committed and passionate about improving lives in Latin-America and the Caribbean, and they get to do what they love in a diverse, collaborative and stimulating work environment. We are the first Latin American and Caribbean development institution to be awarded the EDGE certification, recognizing our strong commitment to gender equality. As an employee you can be part of internal resource groups that connect our diverse community around common interests.

Because we are committed to providing equal opportunities in employment, we embrace all diversity and encourage women, LGBTQ+, persons with disabilities, afro-descendants, and indigenous people to apply.

About us: At the IDB, we're committed to improving lives. Since 1959, we've been a leading source of long-term financing for economic, social, and institutional development in Latin America and the Caribbean. We do more than lending though. We partner with our 48-member countries to provide Latin America and the Caribbean with cutting-edge research about relevant development issues, policy advice to inform their decisions, and technical assistance to improve on the planning and execution of projects. For this, we need people who not only have the right skills, but also are passionate about improving lives.

Our team in Human Resources carefully reviews all applications

Terms of Reference – FIRM 3

TERMS OF REFERENCE

CONSULTANCY TO DEVELOP AND EXECUTE COMMUNICATION CAMPAIGNS FOR THE USE OF THE TEACHER ALLOCATION PLATFORM IN PERU

Peru

PE-T1447

New Technologies to Improve Equity and Efficiency in Teacher Assignment in Peru

1. Background and Justification

- 1.1. The Inter-American Development Bank works to improve lives in Latin America and the Caribbean. Through financial and technical support for countries working to reduce poverty and inequality, we help improve health and education, and advance infrastructure. Our aim is to achieve development in a sustainable, climate-friendly way. With a history dating back to 1959, today we are the leading source of development financing for Latin America and the Caribbean. We provide loans, grants, and technical assistance; and we conduct extensive research. We maintain a strong commitment to achieving measurable results and the highest standards of increased integrity, transparency, and accountability.
- 1.2. The Social Sector (SCL) is a multidisciplinary team convinced that investing in people is the way to improve lives and overcome the development challenges in Latin America and the Caribbean. Jointly with the countries in the region, the Social Sector formulates public policy solutions to reduce poverty and improve the delivery of education, work, social protection, and health services. The objective is to advance a more productive region, with equal opportunities for men and women, and greater inclusion of the most vulnerable groups.
- 1.3. The Education Division supports education systems of Latin America and the Caribbean countries to reach five dimensions that will contribute to making them successful in promoting effective teaching and learning among all children and youth. The IDB's private sector window also finances projects to expand educational opportunities for low-income students.

We support Latin American and Caribbean countries to ensure that:

- a) High expectations guide education services
 - b) Students entering the system are ready to learn
 - c) All students have access to effective teachers
 - d) All schools have adequate resources and are able to use them for learning
 - e) All graduates have the necessary skills to succeed in the labor market and contribute to society
- 1.4. The COVID-19 pandemic is likely to generate significant learning losses and widen socioeconomic learning gaps in Latin America and the Caribbean (BID, 2021). In a region historically affected by

unequal access to quality education, the economic and health crisis of the pandemic will increase these inequalities as many children, especially the vulnerable, have not been able to access education due to lack of distance learning systems, digital infrastructure, and teachers' digital capabilities. To mitigate the negative impact on learning, it will be fundamental to identify, train, select, and allocate good teachers (BID, 2018).

- 1.5. In several LAC countries, the assignment of teachers to schools is inefficient and not transparent. Only government officials know how the “black box” of the system works, and teacher assignment systems often do not provide teachers with enough information on the available vacancies to allow them to make informed decisions. Teachers are more likely to be dissatisfied with their assigned school if they do not have enough information about their options, which can impact their effectiveness in the classroom (Jackson, 2012). Moreover, lack of information about vacancies also creates imbalances in supply and demand for teaching staff. For example, in Peru, more than one quarter of vacancies remain unfilled after the teacher selection process and most of these vacancies are in disadvantaged schools.
- 1.6. Many of these problems derive from the lack of skills that teachers need to understand how the allocation system works and which strategies are needed to secure an available position. Therefore, the purpose of this consultancy is to develop a communication strategy where teachers learn how to use the platform, and at the same time, create activities that can strengthen teachers' digital capacities for the use of other digital platforms implemented by the Ministry.

2. **Objectives**

- 2.1. Teacher allocation in Latin America and the Caribbean is unequal. Empirical evidence shows that high-performing teachers are assigned to more advantaged students and that disadvantaged students are more likely to experience the adverse effects of teacher shortages and turnover related to unequal teacher distributions across schools. In addition, the assignment of teachers to schools tends to be inefficient and not transparent. Teacher assignment systems often do not provide teachers with enough information on the available vacancies to allow them to make informed decisions. This lack of information about vacancies creates imbalances in supply and demand for teaching staff. For example, in Peru, more than one quarter of vacancies remain unfilled after the teacher selection process and most of these vacancies are in disadvantaged schools.
- 2.2. In order to improve the efficiency, transparency, and equity of school assignment systems, several countries have implemented centralized systems. A centralized system is a mechanism administered by a government agency, which collects the scores and preferences of teachers (e.g., an ordered list of preferred schools), to later apply a mathematical algorithm that processes these scores and preferences and assigns school positions. These centralized systems provide a

unique opportunity to use new technologies such as Artificial Intelligence (AI) and Machine Learning (ML) to improve the allocation process and its outcomes. This project aims to use AI and ML to provide relevant information to teachers about their schooling options. AI and behavioral strategies can be used to nudge teachers to consider other relevant options in their choice set, making the assignment of teachers more transparent, equitable, and efficient and improving match quality and satisfaction.

- 2.3. Behavioral techniques can improve efficiency and equity in teacher allocation, yet there is significant room for improvement. For example, the Peruvian initial experience showed unsatisfactory user experience with the online platform; while some teachers could not visualize the available vacancies, others could not find the monetary incentives offered for different types of schools. This type of situations creates barriers for effective teacher assignment and may produce suboptimal choices that could generate inefficiencies in teacher allocation.
- 2.4. The general objective of this consultancy is to improve teachers' digital skills to make better applications according to their preferences and needs.

3. Scope of Services

- 3.1. The selected candidate will plan, prepare, and execute a communication strategy that allows teachers to be informed effectively about the modifications that the teacher application system will have in Peru and teach them how to make successful applications. Moreover, it will plan, design, and develop didactic tutorials to explain to the target population the operation and tools of the application platform that will be implemented in Peru.
- 3.2. Without being an exhaustive list, the essential tasks and functions that the consulting firm must fulfill are:
 - a) Disseminate the products designed for the communication campaign among the teachers
 - b) Guarantee the quality of the products and the effectiveness of the communication campaign of the teacher pilot.
 - c) Monitor the correct functioning of the communication strategy in the country.
 - d) Comply with the schedules of the communications campaign in accordance with the implementation of the project.

4. Key Activities

- 4.1. Develop a communication campaign informing about the new application system in Peru, effectively transmitting its content to the target audience.
- 4.2. Define, in conjunction with the Ministry of Education and the IDB, the target audience to develop the communication strategy that informs about the system changes.

- 4.3. Agree, together with the Ministry of Education and the IDB, the messages and information that need to be communicated (to each target audience) for the new teacher allocation system. The information to be transmitted could include, for example, i) Key dates of the process, ii) General information on the system (what, how, when, etc.), iii) Benefits, iv) Application recommendations, v) Points help and other communication channels, vi) Debunking myths about the new way of applying, vii) Comparative experience on other systems in the world, viii) Specific information on the processes.
- 4.4. Prioritize low-cost communication channels such as: social networks (Facebook, Instagram, YouTube, among others), radio communication media, press, local television, and the possibility of including other communication channels will be analyzed following the cost breakdown presented in the proposal.
- 4.5. Cover the advertising guidelines in the selected media by the definitions agreed with the Ministry of Education and the IDB.
- 4.6. Develop the dissemination products of the communication campaign. The products must have a clear and positive tone through simple, direct language that motivates the target audience's attention. Within the dissemination products, for example, the following should be considered: i) Audiovisual pieces (e.g., video for social networks, radio phrases, television videos, etc.), and ii) Graphic pieces (e.g., step-by-step infographics of how to apply, etc.).
- 4.7. Develop multimedia content tutorials for the platform. The products must have a clear and positive tone through simple, direct language that motivates the target audience's attention. Within the didactic tutorials, at least three audiovisual pieces should be considered (e.g., video tutorial on how to apply).
- 4.8. Prepare effective messages so that the information agreed in previous points has the expected scope, using different techniques for analyzing audiences and their behavior.
- 4.9. Design a visual identity following the image use policies of the Peruvian government. This includes a design guide, logos, color palette, style of letters, images, etc., for all the materials mentioned above and communication products determined for dissemination. All these materials must be delivered in editable formats and pdf, jpg, or other, as appropriate.
- 4.10. Recruit and coordinate the personnel and the necessary means to carry out the communication campaign on the new allocation system in Peru. Disaggregate human capital costs, dissemination channels, preparation and design of advertising and/or communication pieces, and other expenses necessary to carry out the communication campaign.
- 4.11. Define, in conjunction with the Ministry of Education and the IDB, a work schedule based on the requirements and definitions agreed in the previous points. At least, the plan should consider: i) Planning times for the communication campaigns of the allocation system and complementary or post-assignment processes, ii) Times for the design and production of the dissemination material agreed with the Ministry of Education for the communication campaign, iii) Times for testing and acceptance by the target audience, iv) Times for feedback from the Ministry of Education, v) Times for deployment in production.
- 4.12. Deliver graphic, audio, and audiovisual pieces at times agreed in the previous point.

- 4.13. Coordinate and manage the necessary permits for control bodies to authorize the dissemination and content of the communication campaign determined with the definitions granted by the Ministry of Education and the IDB.

5. Expected Outcome and Deliverables

- 5.1. Following the previous activities, the expected deliverables are:

Deliverable 1: Workplan on the development of resources and execution of the communication plan.

Deliverable 2: Report (and, if applicable, graphic and audiovisual material) containing the final designs (and the respective deployment strategy on the different platforms) of the dissemination pieces used in the communication campaign on the new allocation system and its changes. In turn, an estimate of the quantity of each of the diffusion pieces must be considered.

Deliverable 3: A report documenting the implementation and execution of the informational campaign.

Deliverable 4: Final report of campaign results.

6. Project Schedule and Milestones

Deliverable	Project Schedule
9. Deliverable #1	March 1st, 2024
10. Deliverable #2	June 1st, 2024
11. Deliverable #3	September 1st, 2024
12. Deliverable #4	December 1st, 2024

7. Payment Schedule

- 7.1. Payments will be made once the process of review, validation, and incorporation of corrections and comments for each product has been completed and received in accordance with the IDB.

Payment Schedule	
Deliverable	%
9. Deliverable 1	20%

10. Deliverable 2	20%
11. Deliverable 3	30%
12. Deliverable 4	30%
TOTAL	100%

8. Reporting Requirements

8.1. All reports must be submitted in Spanish.

9. Acceptance Criteria

9.1. Reports must be submitted to the Bank in an electronic file. The reports should include cover, main document, and all annexes. Zip files will be accepted for the code source.

9.2. A product is only formally accepted and valid for payment after the written approval by the supervisor.

10. Supervision

10.1. The firm will be reporting to the technical cooperation core team: Gregory Elacqua, Education Chief Economist (EDU / CEC) and by Carolina Méndez, Education Specialist (EDU / CEC).

10.2. Periodic meetings are expected to inform on the progress of the consultancy.

10.3. The technical cooperation core team is responsible for providing comments and feedback on the professional development module.

Terms of Reference – PEC 3

Job Title:

[Education Division](#) Economic Consultant for the PE-T1447: New Technologies to Improve Equity and Efficiency in Teacher assignment in Peru.

Background of this search:

The objective of the consultancy is to support the improves in centralized teacher allocation in Peru, specifically through the preparation of studies that evaluate the success of these technological implementations based on quantitative and qualitative policy evaluation methodologies, for the Education Division.

The team's mission:

[The Social Sector \(SCL\)](#) is a multidisciplinary team convinced that investing in people is the way to improve lives and overcome the development challenges in Latin America and the Caribbean. Jointly with the countries in the region, the Social Sector formulates public policy solutions to reduce poverty and improve the delivery of education, work, social protection, and health services. The objective is to advance a more productive region, with equal opportunities for men and women, and greater inclusion of the most vulnerable groups.

The IDB Group helps Latin American and Caribbean countries promote skills development and lifelong learning as a strategy to ensure that citizens can contribute productively to society, improve their well-being, and be good citizens. To this end, it works with the countries of the region in [five lines of action](#):

- (i) ensure that people have equitable access to relevant, high-quality learning opportunities throughout their lives;
- (ii) strengthen quality and relevance assurance mechanisms;
- (iii) consolidate and develop better financing and co-financing mechanisms to improve the efficiency, effectiveness, and coverage of skills development opportunities;
- (iv) take advantage of the use of technology to increase equity and access to skills development opportunities and improve the efficiency of skills development systems; and
- (v) actively promote the generation and use of evidence to inform decisions about skills development.

What you'll do:

1. Support the research agenda of the Division, specifically in studies related to teacher allocation systems.
2. Support the evaluation process of the pilot of the centralized teacher allocation system in Peru, based on quantitative and qualitative policy evaluation methodologies..
3. Collaborate in the data collection and construction of the necessary databases to implement the centralized allocation pilots.
4. Comment, review, and, if necessary, produce documents for the implementation of a pilot of a centralized system for assigning teachers.

5. Other tasks that the coordinator identifies and are needed to achieve the objectives expected from the consultancy.

These activities must be carried out in coordination with the IDB technical counterpart.

Deliverables Payments timeline:

	Deliverable Description	Est. Date of delivery	% of Payment
#1	A report summarizing the data collection of the teacher intervention, and principal results	August 15th, 2024	20%
#2	A methodology proposal for two causal evaluations of the effectiveness of Artificial Intelligence and nudges in improving equity and efficiency of teacher allocation	October 15 th , 2024	20%
#3	A methodology proposal for a causal evaluation of the effectiveness of the informational campaigns to enhance teachers' digital competencies	November 15 th , 2024	20%
#4	Final two reports and evaluations of the effectiveness of Artificial Intelligence and nudges in improving equity and efficiency of teacher allocation	January 15th, 2025	20%
#5	Final report and evaluation of the effectiveness of the informational campaigns to enhance teachers' digital competencies	March 30th, 2025	20%

What you'll need:

- **Citizenship:** You are a citizen of one of our 48-member countries
- **Consanguinity:** You have no family members (up to fourth degree of consanguinity and second degree of affinity, including spouse) working at the IDB Group.
- **Education:** Master's Degree or Equivalent in Economics, Public Policy, Public Administration or in a similar field, PhD degree preferred.
- **Experience:** Master's and at least 5 years of experience
- **Languages:** Fluent in Spanish and English

Core and Technical Competencies:

- Strong research background and strong analytical abilities, as demonstrated by academic and other professional achievements are required. The candidate should have a deep knowledge of teacher allocation literature.
- Proven ability to work effectively in complex, multi-disciplinary and multi-cultural teams; superior interpersonal skills, client-orientation, diplomatic skills, and mature judgment as well as sensitivity to social and cultural issues.
- A proven ability to write brief, clear and analytical reports and concise discussion notes and presentations.

Opportunity Summary:

- **Type of contract:** Product and External Services (PEC), Lump Sum
- **Length of contract:** 100 days in 12 months
- **Starting date:** July 2024
- **Location:** External
- **Responsible person:** Gregory Elacqua, Principal Economist SCL/EDU
- **Requirements:** You must be a citizen of one of the IDB's 48 member countries and have no family members currently working at the IDB Group.
- **Travel Requirement:** No, travel will not be required.

Our culture: Our people are committed and passionate about improving lives in Latin-America and the Caribbean, and they get to do what they love in a diverse, collaborative and stimulating work environment. We are the first Latin American and Caribbean development institution to be awarded the EDGE certification, recognizing our strong commitment to gender equality. As an employee you can be part of internal resource groups that connect our diverse community around common interests.

Because we are committed to providing equal opportunities in employment, we embrace all diversity and encourage women, LGBTQ+, persons with disabilities, afro-descendants, and indigenous people to apply.

About us: At the IDB, we're committed to improving lives. Since 1959, we've been a leading source of long-term financing for economic, social, and institutional development in Latin America and the Caribbean. We do more than lending though. We partner with our 48-member countries to provide Latin America and the Caribbean with cutting-edge research about relevant development issues, policy advice to inform their decisions, and technical assistance to improve on the planning and execution of projects. For this, we need people who not only have the right skills, but also are passionate about improving lives.

Our team in Human Resources carefully reviews all applications.