

## **TERMS OF REFERENCE**

### ***Baseline STEAM Laboratory School***

Belize

*Project Number: BL-T1116*

*Technical Cooperation Number: TBD*

*Link :*

*TECHNICAL COOPERATION NAME: Support for the Implementation of Education Quality Improvement Program II (EQIP II)*

#### **1. Background and Justification**

Between 2014 and 2018, the Ministry of Education Youth Sports and Culture (MoEYSC) and the IDB tested an Inquiry- and Problem-based Pedagogical (IPP) approach focusing on in-service training and technical assistance to 50 percent of Belize's primary school teachers. The IPP approach was implemented within the framework of the Education Quality Improvement Program (EQIP, BL-L1018). An experimental evaluation of EQIP found that IPP improved students test scores by 0.18 and 0.25 standard deviations in mathematics and science respectively (Bando, Naslund-Hadley & Gertler, 2018).

Based on the positive results of EQIP, the Government of Belize (GoB) and the Inter-American Development Bank (IDB) developed an investment operation (EQIP II, BL-L1030) that seeks to improve the quality of education at the primary and secondary levels, with a special focus on innovation in Science Technology Engineering Arts and Mathematics (STEAM) education. EQIP II was approved by the IDB Board of Directors in June 2019 and is awaiting ratification by Belize's parliament. The general objective of EQIP II will be pursued by training primary and secondary school teachers in IPP and gender-sensitive STEAM teaching. At the secondary level, the operation will finance the creation of a Belize STEAM Laboratory School as a training ground for teachers. A laboratory school is an elementary or secondary school operated in association with a university or educational institution, which is established with the goal to study pedagogical practices to inform teacher training to improve student learning. The school is planned to host 200 students. New teachers to serve the school will be recruited by the MoEYSC and must hold a bachelor's degree in subject matter and have some pedagogical training. In Belize, there is currently no infrastructure to host pedagogical innovations. Teachers make independent adjustments to their practices, but not in a system wide structured or systematic manner. The main assumption associated to the STEM laboratory is that teacher training will lead to improvements in teaching practices. A second assumption is that improving teaching practices will lead to gains in student learning.

#### **Objectives**

Consulting services are required to carry out the baseline data collection for an experimental evaluation of a STEAM Laboratory School in Belize.

#### **2. Scope of Services**

The firm will assist the Bank Project Team with the overall experimental design as well as the baseline data collection and analysis.

#### **Key Activities**

The key activities include, but are not limited to the following:

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- Develop and submit a first draft of a detailed work plan for the consultancy, including the description of the activities to be carried out and its products, a schedule of activities and deliverables.
- Obtain the approval of the study by an IRB (Institutional Review Board) to ensure that the rights and welfare of the participants in the study are protected.
- Design and/or validate test instruments: including but not limited to parent attitudes and beliefs; Early Grade Mathematics Assessment (EGMA) (the EGMA has no cost of copyright); a science learning test; a questionnaire will also be used to collect information about: educational level of parents/guardians, and household characteristics.
- Recruit and train enumerators for data collection, entry, and coding of responses for data collectors.
- Conduct sample calculations, including power calculations.
- Conduct test application of 320 students. The firm will be responsible for printing the questionnaires or provide tablets for electronic data entry.
- Conduct double entry of the collected data in STATA.
- To lay the basis for a possible longitudinal study in the future, the evaluation firm has to collect the following data: (i) names of all individuals must be recorded in separate columns for each name with up to 4 names per individual (if applicable) and with separate columns for surnames (name1, name2, Appellido1 and Appellido2); (ii) Phone numbers, social media contact (user names and Facebook, Twitter and Skype); (iii) Each participant should be asked how likely they are to move out of their current home and that primary and secondary school think their grandchildren will go; and (iv) at the time of the final line), the names must be verified against the original baseline to ensure that the spelling is consistent over the years.
- Maintain and provide a Fieldwork Diary in order to register incidents, logistical, transportation and any other data collection and entry related issues.

### **3. Expected Outcome and Deliverables**

The consultancy will deliver the following documents and reports:

- i. Inception report, including work plan (Product 1);
- ii. Report on Training in data collection and entry (Product 2);
- iii. Report on Data collection, including supervision and quality control. The field work diary should be annexed (Product 3);
- iv. Report on Data entry, including supervision and quality control. The database should be provided in STATA or excel (Product 4).

### **Project Schedule and Milestones**

Product #1: workplan of the consultancy, including the theoretical and methodological approach of the evaluation, describing the tests and instruments to be used, the calculations of power and the data to be collected for the evaluation, identifying the mechanism to Follow, those responsible and the frequency and form of presentation.

Product #2: The first quarterly progress report and validated instruments.

Product #3: The baseline database with its corresponding technical report and code Book and code book.

Product #4: The endline database with its corresponding technical report and code Book.

#### 4. Reporting Requirements

The firm will be required to provide biweekly written updates on the progress of the work. All materials produced during and for this consultancy will:

- i. be delivered in hard and electronic copies (Zip files won't be accepted as final reports):
- ii. be owned by the IDB (copyright), including the right to produce, distribute, disseminate and publish, notwithstanding the termination of the consultancy.

#### 5. Acceptance Criteria

Surveys collected and coded should be subject to revisions and random checks by the firm in order to ensure the highest work ethic and data integrity. The quality control standards will be the standard protocols employed and required by the IDB and data collection firms.

#### 6. Other Requirements

n/a

#### 7. Supervision and Reporting

The consulting firm will be reporting to SCL/EDU, including participation in biweekly project meetings. All reports and databases will require approval by the IDB project team. It shall be Firm's responsibility for ensuring that all reports are submitted to the Bank.

#### 8. Schedule of Payments

Payments will be made as follows:

<b>Payment Schedule</b>	
<b><i>Deliverable</i></b>	<b>Percent</b>
1. Product 1	35%
2. Product 2	25%
3. Product 3	20%
4. Product 4	20%
<b>TOTAL</b>	100%

## TERMS OF REFERENCE

### ***Qualitative Evaluation STEAM Laboratory School***

Belize

*Project Number: BL-T1116*

*Technical Cooperation Number: TBD*

*Link: TBD*

*TECHNICAL COOPERATION NAME: Support for the Implementation of Education Quality Improvement Program II (EQIP II)*

#### **1. Background and Justification**

Between 2014 and 2018, the Ministry of Education Youth Sports and Culture (MoEYSC) and the IDB tested an Inquiry- and Problem-based Pedagogical (IPP) approach focusing on in-service training and technical assistance to 50 percent of Belize's primary school teachers. The IPP approach was implemented within the framework of the Education Quality Improvement Program (EQIP, BL-L1018). An experimental evaluation of EQIP found that IPP improved students test scores by 0.18 and 0.25 standard deviations in mathematics and science respectively (Bando, Naslund-Hadley & Gertler, 2018).

Based on the positive results of EQIP, the Government of Belize (GoB) and the Inter-American Development Bank (IDB) developed an investment operation (EQIP II, BL-L1030) that seeks to improve the quality of education at the primary and secondary levels, with a special focus on innovation in Science Technology Engineering Arts and Mathematics (STEAM) education. EQIP II was approved by the IDB Board of Directors in June 2019 and is awaiting ratification by Belize's parliament. The general objective of EQIP II will be pursued by training primary and secondary school teachers in IPP and gender-sensitive STEAM teaching. At the secondary level, the operation will finance the creation of a Belize STEAM Laboratory School as a training ground for teachers. A laboratory school is an elementary or secondary school operated in association with a university or educational institution, which is established with the goal to study pedagogical practices to inform teacher training to improve student learning. The school is planned to host 200 students. New teachers to serve the school will be recruited by the MoEYSC and must hold a bachelor's degree in subject matter and have some pedagogical training. In Belize, there is currently no infrastructure to host pedagogical innovations. Teachers make independent adjustments to their practices, but not in a system wide structured or systematic manner. The main assumption associated to the STEM laboratory is that teacher training will lead to improvements in teaching practices. A second assumption is that improving teaching practices will lead to gains in student learning.

#### **2. Objectives**

Consulting services are required to carry out the qualitative evaluation for an experimental evaluation of a STEAM Laboratory School in Belize.

#### **3. Scope of Services**

The firm will assist the Bank Project Team with the collection and analysis of qualitative data to help interpret quantitative findings from the impact evaluation of the STEAM Laboratory School.

#### **4. Key Activities**

## HRD Terms of Reference

The key activities include, but are not limited to the following:

- Develop and submit a first draft of a detailed work plan for the consultancy, including the description of the activities to be carried out and its products, a schedule of activities and deliverables.
- Conduct an inception mission to Belize to meet with key stakeholders and assess more accurately the scope of the work and request the necessary information to effectively undertake the consultancy, including the roster of teachers who benefited from the in-service program. After the needs-assessment mission, an Inception Report will be submitted including an update of the Technical Proposal that was submitted and an updated Work Plan.
- Based on the findings of the inception mission, develop a brief technical proposal including an implementation plan to execute the Video Evaluation of Classroom Practices (VECP). The methodology should consider the use of the Classroom Assessment Scoring System (CLASS) and the Trends in International Mathematics and Science Study (TIMSS) Video Study Instrument (TVSI) based on the information needs and the instruments' limitations and capabilities.
  - **CLASS** is an observational instrument used to reliably assess classroom quality for research and program evaluation and to help new and experienced teachers become more effective by: providing programs, schools, and districts with reliable and valid data on teacher effectiveness; creating a common language about effective teaching practices across subject areas and grade levels; helping teachers better understand how their interactions in the classroom affect student learning; and documenting improvements in the effectiveness of teachers' interactions with students.
  - **TVSI** involves the videotaping and analyzing of mathematics and science teaching practices in order to: compare teaching practices with those found in high-achieving countries; discover new ideas about teaching mathematics and science; develop new teaching research methods and tools for teacher professional development; create a digital library of images of teaching to inform educational policy; and stimulate and focus discussion of teaching practices among educators, policymakers, and the public.
- Develop the protocols for the implementation of the VECP and train the videographers to ensure their work will yield the necessary information for the Lead Researcher to conduct an analysis of classroom practices based on the CLASS and/or TVSI methodologies. The number of hours of classes that will be videotaped and coded will be up to the firm to propose, and it will be an important point in the evaluation criteria of firms.
- Film one-hundred hours of STEAM lessons in treatment and comparison classrooms, code the lessons with CLASS and TVSI, analyze the data and prepare a comprehensive report.

### 5. Expected Outcome and Deliverables

The consultancy will deliver the following documents and reports:

- i. Inception report, including work plan (Product 1);
- ii. Report on Training in qualitative data collection and coding (Product 2);

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- iii. Qualitative database and corresponding video recordings (Product 3);
- iv. Report on Data coding, and analysis (Product 4).

### **6. Project Schedule and Milestones**

Product #1: workplan of the consultancy, including the theoretical and methodological approach of the evaluation, describing the tests and instruments to be used, the calculations of power and the data to be collected for the evaluation, identifying the mechanism to Follow, those responsible and the frequency and form of presentation.

Product #2: The first quarterly progress report and validated instruments.

Product #3: The qualitative database with its corresponding technical report and code Book and code book.

Product #4: The final report

### **7. Reporting Requirements**

The firm will be required to provide biweekly written updates on the progress of the work.

All materials produced during and for this consultancy will:

- i. be delivered in hard and electronic copies (Zip files won't be accepted as final reports);
- ii. be owned by the IDB (copyright), including the right to produce, distribute, disseminate and publish, notwithstanding the termination of the consultancy.

### **8. Acceptance Criteria**

Videos collected and coded should be subject to revisions and random checks by the firm in order to ensure the highest work ethic and data integrity. The quality control standards will be the standard protocols employed and required by the IDB and video data collection firms.

### **9. Other Requirements**

**Qualifications:** The Lead Researcher should have: a minimum of a Master's Degree in Education, Social Science, or related area; a minimum of 10 years of experience applying classroom observation methodologies and analyzing classroom practices; Individuals with a Bachelor's Degree must have a minimum of 15 year work experience applying classroom observation methodologies and analysing classroom practices. The LR must have worked in Live Action Camera (LAC), have a good track record delivering products of international standards; and fluent in the English language (written and oral).

**Qualifications** of the Videographers: The Videographer should have at least an Associate Degree or a certificate in film and video production, and proven experience of at least 2 years in camera operation, shot composition, technique and lighting, and in the managing of small to medium event scale productions (i.e. live events, training videos, commercials, documentaries, legal depositions, short films, etc.); and are fluent in the English language (written and oral).

**Other characteristic:** This is a Fixed Cost consultancy. One of the major dimensions that will be evaluated in the proposal will be the number of hours of videotaping of teacher classroom delivery and the quality of the videotape and the coding.

### **10. Supervision and Reporting**

## HRD Terms of Reference

The consulting firm will be reporting to SCL/EDU, including participation in biweekly project meetings. All reports and databases will require approval by the IDB project team. It shall be Firm's responsibility for ensuring that all reports are submitted to the Bank.

### 11. Schedule of Payments

Payments will be made as follows:

<b>Payment Schedule</b>	
<b><i>Deliverable</i></b>	<b>Percent</b>
1. Product 1	35%
2. Product 2	25%
3. Product 3	20%
4. Product 4	20%
<b>TOTAL</b>	100%



## HRD Terms of Reference

**Job Title:** Data Analysis Support for the Implementation of Education Quality Improvement Program II (EQIP II) (BL-T1116), Economics consultant in the Education Division  
(Add Convergence ID number)

**Background:** 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.

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 team:** 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:

- 1) High expectations guide education services;
- 2) Students entering the system are ready to learn;
- 3) All students have access to effective teachers;
- 4) All schools have adequate resources and are able to use them for learning; and
- 5) All graduates have the necessary skills to succeed in the labor market and contribute to society.

### THE OBJECTIVE OF THE CONSULTANCY

The divisions of Education (SCL/EDU) and Social Protection and Health (SCL/SPH) of IDB's Social Sector Department are initiating the execution of a new lending operations to improve the quality of education in Belize: Education Quality Improvement Program EQIP II.

**What you'll do:** The selected candidate will support the project team in the data analysis of the baseline data. The main activities to be carried out by the consultant are described below, without prejudice to any activity that may arise during the design of this operation and that are necessary to achieve its previously indicated objective. Among them the most important will be to support the preparation of the following activities:

- Assist in database management of experimental results, using STATA to merge and clean datasets from different schools;



## HRD Terms of Reference

- Conduct statistical analysis of sample diagnostic characteristics, including checking for experimental group balance and attrition;
- Conduct literature review of related studies and theories to contextualize the relevance of this study;
- Describe methodology and implementation proceedings in the execution of contract terms, with attention to implementation events that are important in interpreting final results; and
- Write an analytical report on quantitative and qualitative baseline data.

### Deliverables/Payments timeline:

	<b>Deliverable Description</b>	<b>Est. Date of Delivery</b>	<b>% of Payment</b>
<b>#1</b>	<i>Inception report/ workplan</i>	<i>Describes activities and timelines (1 week after signature of contract)</i>	<b>10%</b>
<b>#2</b>	Database and draft report	<i>2 months after signature of contract</i>	<b>60%</b>
<b>#3</b>	Final report	<i>3 months after signature of contract</i>	<b>30%</b>

### Skills 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, Statistics or similar.
- **Experience:** A minimum of five (5) years of relevant professional experience or the equivalent combination of education and experience
- **Languages:** Fluent in **English** preferably knowledge in **Spanish**

### Core and Technical Competencies:

Knowledge of IDB formats for the preparation of project ex-ante economic analysis is a must.

### Opportunity Summary:

- Type of contract: Product and External Services (PEC), Lump Sum
- Length of contract: 60 days over a period 6 months
- Starting date: July, 2020
- Location: United States and home of the consultant.
- Responsible person: Emma Naslund-Hardley Lead Education Specialist. SCL/EDU and Rosangela Bando, Lead Evaluation Economist, SPD/SPD
- 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.

## HRD Terms of Reference

**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.

**We encourage women, afro-descendants, people of indigenous origins, and persons with disabilities 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.**