Document of

The World Bank

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Report No: PAD2017

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$130 MILLION

TO THE

UNITED MEXICAN STATES

FOR A

HIGHER EDUCATION PROJECT

February 24, 2017

Education Global Practice
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

Exchange Rate Effective February 24, 2017

Currency Unit	=	US$
19.74 MXN	=	US$1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Jorge Familiar
Country Director:	Gerardo M. Corrochano
Senior Global Practice Director:	Amit Dar
Practice Manager:	Reema Nayar
Task Team Leader(s):	Robert J. Hawkins, Javier Botero Alvarez

ABBREVIATIONS AND ACRONYMS

CC-DGESPE	Coordination Committee of DGESPE
CAL	Computer-Assisted Learning
CGEIB	General Coordination of Intercultural and Bilingual Education (*Coordinación General de Educación Intercultural y Bilingüe*)
CLC	Settled Accounts Certified (*Cuentas por Liquidar Certificadas*)
CONACyT	National Council of Science and Technology (*Consejo Nacional de Ciencia y Tecnología*)
CoP	Communities of Practice
CUNY	City University of New York
DGESPE	General Directorate of Higher Education for Education Professionals (*Dirección General de Educación Superior para Profesionales de la Educación*)
DGESU	Universitaria General Directorate of University Higher Education (*Dirección General de Educación Superior Universitaria*)
DSA	Directorate of Academic Improvement (*Dirección de Superación Académica*)
EMP	Environmental Management Plan
FM	Financial Management
GDP	Gross Domestic Product
GoM	Government of Mexico
GRS	Grievance Redress Service
HEI	Higher Education Institutions
IADB	Inter-American Development Bank
IBRD	International Bank of Reconstruction and Development (World Bank)
ICT	Information and Communications Technology
IEG	Independent Evaluation Group
IFR	Interim unaudited Financial Reports
INEE	National Institute for Educational Evaluation *(Instituto Nacional para la Evaluación de la Educación*)
IRR	Internal Rate of Return
IPF	Investment Project Financing
IPPF	Indigenous Peoples Planning Framework
IPR	Institutional Program Representatives
ISP	Implementation Support Plan
IU	Intercultural Universities
LAC	Latin American and Caribbean
MOOC	Massive Open Online Course
MXN	Mexican Pesos
NAFIN	National Finance Development Bank (*Nacional Financiera*)
NDP	National Development Plan
NPV	Net Present Value
OECD	Organization of Economic Co-operation and Development
OIC	Internal Organ of Control (*Órgano Interno de Control*)
OP/BP	Operation Policy/Bank Policy
PACTEN	Program to Support the Quality of Education and the Transformation of Teacher Training Colleges (*Plan de Apoyo a la Calidad Educativa y la Transformación de las Escuelas Normales)*
PDO	Project Development Objective

PECITI	Program on Science and Technology and Innovation
PFCE	Program for Strengthening Quality Education (Programa de Fortalecimiento de la Calidad Educativa)
PIU	Project Implementation Unit
PIDES	Higher Education Integrated Planning (*Planeación Integral de la Educación Superior*)
PLANEA	National Plan for the Assessment of Learning (*Plan Nacional para la Evaluación de los Aprendizajes*)
PNPC	National Quality Graduate Program (*Programa Nacional de Posgrados de Calidad*)
PPSD	Project Procurement Strategy for Development
PRODEP	Program for Teacher Development (*Programa para el Desarrollo Profesional Docente*)
ProExOEES	Program to Expand te Supply of Higher Education (*Programa Presupuestario de Expansión de la Educación Media Superior y Superior*)
PROFEN	Program for the Strengthening of Teacher Colleges *(Programa de Fortalecimiento de la Escuela Normal)*
PROFOCIE	*Quality Strengthening Program in Educational Institutions* (Programa de Fortalecimiento de la Calidad en Instituciones Educativas)
PROGEN	Program for the Strengthening of State Management *(Programa de Fortalecimiento de la Gestion Estatal)*
PROMEP	Teacher Improvement Program (*Programa de Mejoramiento del Profesorado*)
PSU	Public State Universities (Universidades Públicas Estatales)
PTC	Full time teachers (*Profesores de Tiempo Completo*)
R&D	Research and Development
SEP	Secretariat of Public Education (*Secretaría de Educación Pública*)
SES	Sub-Secretariat of Higher Education (*Subsecretaría de Educación Superior*)
SFP	Secretariat of Public Function (*Secretaría de la Función Pública*)
SHCP	Ministry of Finance and Public Credit *(Secretaría de Hacienda y Crédito Público*)
SIAFF	Integral Federal Financial Management System (*Sistema Integral de Administración Financiera Federal*)
SIBEN	Basic Information System for Normal Education (*Sistema de Información Básica de la Educación Normal*)
SICOP	Budgeting and Accountability System (*Sistema de Contabilidad y Presupuesto*)
SNIEE	National Education Statistical Information Service (*Servicio Nacional de Información Estadística Educativa*)
SOE	Statements of Expenditure
SOP	Standard Operating Procedures
SPD	Professional Teaching Service (*Servicio Profesional Docente*)
SUNY	State University of New York
TESOFE	Federal Treasury *(Tesorería de la Federación*)
TCC	Teacher Training Colleges (*Escuelas Normales*)
TPEE	Teaching Profession Entrance Exam
UI	Intercultural Universities (*Universidades Interculturales*)
UNESCO	United Nations Educational, Scientific and Cultural Organization
WB	World Bank
WBG	World Bank Group

BASIC INFORMATION

Is this a regionally tagged project?	Country(ies)	Lending Instrument
No		Investment Project Financing

[ ] Situations of Urgent Need of Assistance or Capacity Constraints

[ ] Financial Intermediaries

[ ] Series of Projects

Approval Date	Closing Date	Environmental Assessment Category
17-Mar-2017	16-Mar-2022	B - Partial Assessment

Bank/IFC Collaboration
No

Proposed Development Objective(s)

Strengthen the institutional capacity for innovative teaching, collaborative applied research, and internal quality assurance across participating public higher education institutions.

Components

Component Name	Cost (US$, millions)
Development and Implementation of Innovation Teaching Practices in Teacher Training Colleges	8.00
Strengthening Collaborative Applied Research and Innovative Teaching across Higher Education Institutions	119.68
Strengthening of Higher Education Indicators and Quality Assurance Models	2.00

Organizations

Borrower :	Ministry of Finance and Public Credit (Secretaría de Hacienda y Crédito Público, SHCP)
Implementing Agency :	Secretariat of Public Education (Secretaría de Educación Pública)

[ ] Counterpart Funding	[✔] IBRD	[ ] IDA Credit [ ] Crisis Response Window [ ] Regional Projects Window	[ ] IDA Grant [ ] Crisis Response Window [ ] Regional Projects Window	[ ] Trust Funds	[ ] Parallel Financing

Total Project Cost:	Total Financing:	Financing Gap:
130.00	130.00	0.00
	Of Which Bank Financing (IBRD/IDA):	
	130.00	

Financing (in US$, millions)

Financing Source	Amount
International Bank for Reconstruction and Development	130.00
Total	**130.00**

Expected Disbursements (in US$, millions)

Fiscal Year	2017	2018	2019	2020	2021	2022
Annual	1.00	29.00	30.00	30.00	30.00	10.00
Cumulative	1.00	30.00	60.00	90.00	120.00	130.00

INSTITUTIONAL DATA

Practice Area (Lead)

Education

Contributing Practice Areas

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Low
8. Stakeholders	Substantial
9. Other	
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✔] No

Does the project require any waivers of Bank policies?

[ ] Yes [✔] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✔	
Natural Habitats OP/BP 4.04		✔
Forests OP/BP 4.36		✔
Pest Management OP 4.09		✔
Physical Cultural Resources OP/BP 4.11		✔
Indigenous Peoples OP/BP 4.10	✔	
Involuntary Resettlement OP/BP 4.12		✔
Safety of Dams OP/BP 4.37		✔
Projects on International Waterways OP/BP 7.50		✔
Projects in Disputed Areas OP/BP 7.60		✔

Legal Covenants

Sections and Description

Section I.B.1 of Schedule 2:

For purposes of implementing Part 1.2 of the Project, the Borrower, through SEP (through SES), shall maintain the pertinent Coordination Agreement with each State participating in the implementation of said Part of the Project, underterms and conditions described in the POM.

Sections and Description

Section I.C.1 (a) of Schedule 2

For purposes of implementing Parts 1.1, 2 (Research and Innovation Subprojects) and 3.1 of the Project, the Borrower, through SEP (through SES), shall maintain the pertinent collaboration agreement with each of the Participating Higher Education Institutions (Collaboration Agreement), under the terms and conditions set forth in the POM.

Sections and Description
Section I.C. 2 (a) of Schedule 2
Prior to the carrying out of any activity under Parts 1.1 and 2 (Research and Innovation Subprojects) and 3.1 of the Project, the Borrower, through SEP (through SES), shall cause each Participating Higher Education Institution to sign (jointly with the other public higher education institutions integrating the pertinent Academic Alliance under Parts 1.1 and 2 of the Project) a commitment letter (Carta Compromiso) under terms and conditions acceptable to the Bank and set forth in the POM

Sections and Description
Section II.E. 3 of Schedule 2
Prior to the carrying out of any activity under Part 1.2 by a State (on behalf of a Teacher Training College), the Borrower, through SEP (through SES), shall: (i) issue a notice (Oficio) acceptable to the Bank to such State requiringthe State to comply with transparency and anticorruption provisions referred to in paragraph 1 above; and (ii) ensure that the State has issued a commitment letter to SEP (through SES) agreeing to comply with the provisions set forth in the Oficio mentioned in (a) herein.

Conditions

Type	Description
Effectiveness	The Contrato de Mandato has been duly executed by the parties thereto.

PROJECT TEAM

Bank Staff

Name	Role	Specialization	Unit
Robert J. Hawkins	Team Leader(ADM Responsible)		GED04
Javier Botero Alvarez	Team Leader		GED04
Sandra Ximena Enciso Gaitan	Procurement Specialist(ADM Responsible)		GGO04
Francisco Rodriguez	Procurement Specialist		GGO04
Daniel Chalupowicz	Financial Management Specialist		GGO22
Antonella Novali	Team Member		GED04

Dora Patricia Andrade	Safeguards Specialist	Senior Environmental Specialist	GEN04
Elena Segura Labadia	Team Member		LEGLE
Francisco Peyret Garcia	Safeguards Specialist	Social Specialist	GSU04
Jose C. Janeiro	Team Member		WFALA
Joshua Nelson Lopez	Team Member	Consultant	GED04
Marcela Lucia Silveyra de la Garza	Team Member		GED04
Mary A. Dowling	Team Member		GED04
Renata Freitas Lemos	Team Member		GED04

Extended Team

Name	Title	Organization	Location

MEXICO
MEXICO HIGHER EDUCATION PROJECT

TABLE OF CONTENTS

I. STRATEGIC CONTEXT

A. Country Context

1. **Mexico is a middle-income country with a per capita GDP of US$9,010 (2015) facing significant challenges to growth and development.** After the 2008-09 global financial crisis, Mexico's economy rebounded quickly, reaching an average growth rate of 4.4% (2010-12). However, recent growth has been lower than expected, registering real GDP growth of 2.6% (2015). An underdeveloped financial system, labor market rigidities, high informality, regulatory barriers for doing business, weak innovation capacity, and limited market competition in key input sectors such as telecommunications and energy are seen as constraints to productivity growth. Importantly, scarce skilled labor and its impact on slow adoption of new technologies is also seen as important factors for slow productivity growth.

2. **Like many Central American countries, Mexico is extremely susceptible to hurricanes and storm surges in coastal areas, as well as extreme precipitations and earthquakes.** The country's poor ability to withstand these climate and disaster risks can lead to a variety of other unintended consequences. Extreme flooding, for example, can trigger mudslides and landslides, putting already vulnerable communities and infrastructure at risk and exacerbating inequality across the country.

3. **Implementation of an ambitious structural reform agenda introduced by the current administration has the potential to raise productivity and unleash growth in the medium term while reducing poverty and income inequality**. Over the past 3 years, major progress on the enactment of legislative changes in the areas of labor market regulation, education, telecommunication and competition policy, financial sector regulation, energy, and fiscal policy, has been achieved. Mexico's National Development Plan (NDP) for 2013-18 establishes 5 main objectives: Peace, Inclusion, Quality of Education, Prosperity, and Global Responsibility. A main priority for growth and development emphasized in both the reform process and the NDP is improving the quality of education at all levels, and reducing access and achievement gaps between rich and poor to increase relevant skills in order to spur long-term equitable growth.

4. **Education is a key driver of growth.** Studies show that a 10% increase in the quality of human capital is associated with a GDP increase of 0.87% (OECD, 2009). Due to the inequities across the system, Mexico is one of the countries with the greatest growth potential in GDP to be gained from improvements in its education system. It is estimated that the impact on economic growth of improving educational quality in Mexico would be almost double that observed in other countries (OECD, 2009). The critical challenge is to create human capacity with the relevant skills necessary to innovate and help solve local and national challenges.

B. Sectoral and Institutional Context

5. **Mexico's Public Higher Education (HE) system is composed of a diverse range of sub-systems with differing levels of specialization, autonomy and access.** These sub-systems include: (i) the largely autonomous Public University sub-system (Public Federal Universities, Public State Universities, Public State Universities with Solidarity Support, and Inter-Cultural Universities) offering degrees in a wide range of subjects; (ii) the highly-specialized Public Teacher Training sub-system (Teacher Training Colleges) offering university-type degree programs for all types and levels of teacher training; (iii) Public

Technological Education sub-system (Technological Universities, Polytechnic Universities, and Federal and Decentralized Technological Institutes) offering university and two-year degrees in engineering and applied sciences; and (iv) the Public National Pedagogical University sub-system.

6. **Across all sub-systems, Higher Education Institutions (HEI) face significant challenges in achieving high quality and equity.** In terms of social equity, HE students from the lowest decile have only increased their net enrollment rates from 2% in 2000 to 6% in 2012 while students from the highest decile have increased from 64% to 89% (Holland, Murck & Székely, 2016). In terms of gender equity, while the gap in gross enrolment and school life expectancy has been closing in the last decade (gender ratio is close to 1), the gap still persists when looking at gender participation in specific types of programs like teacher education and technical education[1]. In terms of quality, the HE accreditation system is dispersed with the participation of a variety of entities and agencies that function without a common framework, making quality recognition and improvement difficult to monitor. At the international level, only a few Mexican HEI's appear in top positions in international rankings[2]. Furthermore, Mexico has one of the lowest completion rates in HE of the OECD countries, with only 25% of the population obtaining a degree in HE. Yet, Mexican HEIs acknowledge the importance of overcoming these challenges. In 2012, the National Association of Higher Education Universities and Institutions (ANUIES) composed of 174 HEIs published their vision for the future of Higher Education in Mexico called "Inclusion with Social Responsibility". The document emphasizes the strategic role that HEIs must play in resolving national challenges and contributing to education reform.

7. **The Mexico Education Reform aims to increase the quality of education and underscores the role of the Teacher Training sub-system, its colleges and its teachers.** The Education Reform[3] is focused on improving teacher quality through the creation of the Professional Teaching Service (SPD), including new measures related to hiring, evaluating, training, and promotion of teachers. Also, Secretariat of Public Education (SEP) has presented a new education model (GoM, 2016) focusing primarily on basic education but also providing best practice guidelines for HEIs, including Teacher Training Colleges.[4] SEP is also prioritizing and allocating its funding for Teacher Training Colleges based on a set of quality indicators, including participation in Academic Research Groups (CA), achievement of successful results by their graduates in the national teacher selection process, improvements in classroom practices, and accreditation of programs.

8. **Improvement in the quality and relevance of teacher education in both Teacher Training Colleges and Universities requires new classroom practices, improved content, and an improved strategy to share new ideas across the system.** The National Plan for the Assessment of Learning (PLANEA) highlights

[1] The gender ratio for students in the Teacher Training College sub-system is 1:2.23, indicating substantial female participation, while for students in Technical and Technological Sub-System, the ratio is 1:0:60.
[2] For example, out of the 916 HEIs selected in the 2016 Quacquarelli Symonds Global Ranking of Best Universities, there are only 7 Public HEIs from Mexico, all from the Public University sub-system. While the National Autonomous University of Mexico ranks at 126, the remaining 6 rank towards the bottom (at 600+).
[3] Which began phased implementation in 2015.
[4] Before the establishment of the National Teacher Service, and until 2015, all basic education teachers had to be graduates from Teacher Training Colleges. In 2015, the hiring process was opened to all graduates from HEIs, however, more than 50 % of new basic education teachers still graduate from these Colleges.

that 79% and 64% of primary and secondary students obtained “Insufficient” or “Basic” achievement levels in Spanish and 84% and 81% did so in Mathematics, respectively. [5] There are also important differences in educational attainment within the country,[6] suggesting large differences in quality of teacher and teacher education. In fact, results from the latest teacher selection process highlight the underperformance of HE graduates entering teacher service. For the 2014-2015 school year, only 44.50% and 33% of graduates from Teacher Training Colleges and Universities, respectively, entering the job market obtained "suitable" results[7] and earned a basic education school contract (K-9th grade).[8]

9. **Across all sub-systems, improving institutional capacity for high quality research is a potential catalyst for growth.** HEIs can be a major driver of economic competitiveness in a knowledge-driven economy. Evidence shows that doubling of research-intensive universities across countries increases regional GDP by 4% (Valero and Van Reenen 2015). In Mexico, for the past 15 years Academic Research Groups have been a mechanism for collaborative professional development to improve teaching and academic research. While Academic Research Groups are extensive across HEI’s (with 1,136 in consolidation[9] and 1,458 in the process of being formed as of 2015), their measureable impact and outputs have not been applicable to society at large and the knowledge generated not effectively shared and recognized.[10] Moreover, Academic Research Groups are largely concentrated in the Public University sub-system (92% versus 7% in the Public Technological Education sub-system, and less than 1% in other sub-systems).

10. **Increased research collaboration across HEIs would provide opportunities for more effective sharing of knowledge, improving both quality and equity across the HE system.** Research suggests that larger teams working through inter-institutional collaboration are associated with stronger scientific influence and productivity (Adams et al 2004). This indicates that strengthening inter-institutional collaboration could be a channel through which the capabilities, dynamism and leadership of Academic Research Groups are equitably enhanced and aligned with solving societal problems.

11. **Translating collaborative research knowledge into education innovations in the classroom can increase relevance and lead to improvements in teaching practices.** Innovations are broadly defined as the development and implementation of new solutions to existing problems. While not the only form of innovation, integration of information and communication technologies (ICT), including digital or virtual laboratories, is often used as a proxy for a country’s ability to apply new solutions to education challenges. Mexico is one of the few Latin American and Caribbean (LAC) countries (8 out of 31) that has not implemented nation-wide strategies or policies to integrate ICT in all HEIs and has the lowest percentage (2%) of basic education teachers trained to teach using ICT facilities (UNESCO-UIS, 2012). A greater supply of education innovations in digital forms based on new research knowledge could

[5] Mexico’s 2015 PISA scores place it in last position among the OECD (53rd out of the 65 participating countries).
[6] For instance, 11% of secondary school students from high and very high levels of marginalization scored “Good” or “Excellent” in PLANEA-Spanish, as opposed to 20% for those from low and very low levels of marginalization.
[7] The teacher selection process evaluates candidate results on a two-level scale: suitable or not-suitable. Those with suitable results earn a 2-year probationary contract and receive training based on the level of their suitability.
[8] For secondary education contracts (10-12 grade), the share of graduates who obtained suitable results was 33%.
[9] Consolidated Academic Research Groups are composed of participants who have ample teaching experience, professional development, and high caliber academic work.
[10] For example, see Leyva 2010.

increase relevance, quality and access to content and courses in Higher Education, potentially increasing equal opportunities to those who have to date not participated in Higher Education.

12. **The Higher Education System requires improved quality assurance and robust indicators to coordinate and monitor the variety of types of institutions financed by the Government**. A large number of government and non-government bodies are responsible for the planning, monitoring and evaluation of Mexico's multifaceted Higher Education System. Analogously, there is also a vast amount of information on students, programs and institutions being collected by different actors and a variety of platforms of differing quality used to disseminate this information. In many cases the indicators used for quality monitoring at the sub-system level are not consistent and often not relevant to the sub-system. Moreover, the range of development of internal (at the institutional level) quality assurance systems is very large between institutions and between sub-systems. Nevertheless, SEP institutional efforts to integrate all HEIs and facilitate inter-institutional collaboration can be leveraged to attain a cohesive set of quality indicators and Quality Assurance models for the effective planning, monitoring and evaluation of HE tailored to the needs of each sub-system.

C. Higher Level Objectives to which the Project Contributes

13. **The proposed operation is an important component of the World Bank Group's Country Partnership Strategy (CPS) for FY14-FY19 (Report No. 80800-MX), which is fully aligned with the goals of Mexico's NDP for 2013-18 and the World Bank Twin Goals of ending extreme poverty and boosting shared prosperity**. The program fits under CPS theme II "Increasing Social Prosperity". The focus of the Project on strengthening capacity for innovative teaching, collaborative applied research, and internal quality assurance across participating public HEIs supports a forward-looking human resource development strategy in two ways. First, it increases equality and knowledge sharing among all HEIs. Second, it contributes to reorient education services and learning outcomes to meet social, technical, and economic needs for better and more relevant skills for graduates, especially of lower socioeconomic status. Furthermore, the proposed operation is part of a larger governmental program and will be implemented using the following existing SEP programs: Program to Support the Quality of Education and the Transformation of Teacher Training Colleges (PACTEN); Program for Teacher Professional Development (PRODEP); Program for Strengthening Quality Education (PFCE); and Program to Expand the Supply of Higher Education (ProExoEES). Finally, the Project supports a critical element of the Government's education reform by strengthening capacity at Teacher Training Colleges and Universities.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

14. The Project objective is to strengthen the institutional capacity for innovative teaching, collaborative applied research, and internal quality assurance across participating public higher education institutions.

B. Project Beneficiaries

15. The direct beneficiaries of the Project would be participating public HEIs, professors and students at participating public HEIs. Indirect beneficiaries would include students in Basic Education, students at Upper Secondary Education Institutions, families of students at Upper Secondary Education Institutions,

both public and private employers, and the general public. It is expected that at least 80% of all public HEIs would benefit from at least one of the Project activities.

C. PDO-Level Results Indicators

16. The proposed Project would have the following results indicators:

1. Number of Teacher Training Colleges with at least one Community of Practice that implements and documents an educational innovation.
2. Number of courses that are designed or redesigned to incorporate education innovations as a result of the research of Academic Alliances supported by the Project.
3. Percentage of Academic Alliance projects that achieve at least 80% of their annual goals.
4. Number of participating Higher Education Institutions that have incorporated the quality indicators developed through the Project in their internal quality assurance model.

III. PROJECT DESCRIPTION

A. Project Components

Component 1: Development and Implementation of Innovative Teaching Practices in Teacher Training Colleges (US$8 million)

17. **The objective of this component is to strengthen the development and implementation of innovative teaching practices in participating public HEIs through the design, implementation, monitoring and assessment of communities of practice (CoP).**

18. **Sub-component 1.1: Support for the design, facilitator capacity building and assessment of CoP.** This sub-component would provide support for the design of the CoP model through pilot implementation; the capacity building for facilitators to support the implementation of the CoP model; and the development and application of an assessment framework to support education innovations. Public State Universities in alliances with Teacher Training Colleges would carry out the activities in support of the national education reform, including:
    (a) Design and piloting of the CoP model based on the main challenges encountered by Teacher Training College graduates and a semester long process of defining, implementing and assessing educational innovations in the classroom;
    (b) Implementation of the capacity building program for the facilitators of the CoP model;
    (c) Preparation of guidelines to monitor and assess the CoP and the innovative pedagogical teaching practices resulting from the CoP implementation in Subcomponent 1.2.

19. **Sub-component 1.2: Support for the implementation of the CoP model and dissemination of CoP innovative pedagogical practices.** This sub-component would provide support for the implementation of the CoP model in Teacher Training Colleges and dissemination of the CoP innovative pedagogical practices through the following activities:
    (a) Carrying out of CoP implementation which consist of one or more of the following activities, *inter alia*: (i) participation in capacity building events and other relevant events; (ii) production of relevant teaching materials; and (iii) upgrade and maintenance of digital and technological

infrastructure.

(b) Carrying out of dissemination of CoP practices which consist of one or more of the following activities, *inter alia*: (iv) publication and dissemination of innovative pedagogical teaching practices resulting from the activities in Sub-component 1.1; and (v) the design and implementation of a communication and dissemination strategy on the results of the activities carried out above; including the organization of events to share experiences and best practices.

Component 2: Strengthening Collaborative Applied Research and Innovation Teaching across Higher Education Institutions (US$120 million)

20. **The objective of this component is to strengthen collaborative applied research and innovative teaching across Academic Research Groups and promote the formation of long-lasting cutting-edge academic alliances among public HEIs.** This component would support competitive research grants for the development of collaborative applied research and the implementation of education innovations. The component would provide support for Academic Alliance proposals for the implementation of Research and Innovation Subprojects, which would include, *inter alia*: (i) research plan proposal addressing relevant local, regional and/or national development issues; and (ii) a proposal for the design or redesign of teaching courses that include innovative teaching practices. The Academic Alliance would: (i) be led by Public State Universities or State Public Universities with Solidarity Support; and (ii) include participation of Academic Research Groups from four or more HEIs of other sub-systems, including at least one Teacher Training College.

21. **The Research and Innovation Subprojects would consist of one or more of the following activities**, *inter alia*: (i) the carrying out of research and innovation activities (including study design, data collection and data analysis); (ii) the organization and participation in local, regional and/or national relevant events on education innovation experiences and lessons learned; (iii) upgrade and maintenance of digital and technological infrastructure; and (iv) development, publication and/or dissemination of innovative teaching practices, materials, and/or courses, resulting from the carrying out of the Research and Innovation Subprojects. Research and Innovation Subprojects would result in newly consolidated Academic Research Groups; increased percentage of participating professors engaged in research and educational innovations from outside Public State University sub-system; new digital educational resources developed as a result of the Academic Alliances; and new publications. As it relates to climate change co-benefits, it is expected that at least 1% of proposals would be related to climate change mitigation and/or adaptation co-benefits.[11]

Component 3: Strengthening of Higher Education Indicators and Quality Assurance Models (US$2 million)

22. **The objective of the component is to contribute to continuous institutional improvement through a systematic process for the collaborative sharing, development and use of Higher Education indicators and quality assurance models by Participating HEIs**.

[11] Source: *El Presupuesto Público para la Función Ciencia, Tecnología e Innovación, 2015-2016, Dirección de Servicios de Investigación y Análisis, Poder Legislativo Federal Cámara de Diputados.* Estimate is based on an analysis of past funding for climate change from *Fondo Sectorial De Investigación Ambiental SEMARNT-CONACYT.*

23. **Sub-component 3.1: Development of indicators and pilot of new models for internal quality assurance.** This sub-component would provide support for the review, redesign, piloting and evaluation of internal quality assurance indicators and models of participating public HEIs, through *inter alia*, the following activities:
    (a) Diagnostic and comparative study of systems of quality indicators in HEIs;
    (b) Creation of new models for internal quality assurance based on quality indicators;
    (c) Contrasting the models of HEI indicators for quality assurance with existing models, taking into consideration international practice;
    (d) Designing models for quality assurance and continuous improvement of new and existing programs and institutions in Mexico's HE System; and
    (e) Pilot implementation and evaluation of new models of quality assurance, taking into consideration international experience by type of HEI.

24. **Sub-component 3.2: Supporting Impact and Process Evaluations**. This sub-component would support: (i) a study to evaluate the impact of communities of practice on teacher and student outcomes; (ii) a study to evaluate the process through which research funding leads to successful collaborative applied research projects and education innovations in Component 2; and (iii) a study to evaluate the process through which HEIs adopt and use improved indicators and quality assurance systems throughout the duration of the Project for institutional improvement. The Project would provide support to the team of specialists in General Directorate of University Higher Education (DGESU) for the construction of survey instruments such as self-reported surveys as well as telephone interviews with lead investigators to measure these practices and monitor data collection to carry out this process evaluation.

B. Project Cost and Financing

The lending instrument for the Project will be an Investment Project Financing supported by an IBRD Loan of US$130 million. The Project will cover retroactive expenditures for costs incurred up to a 12-month period before the date of signature of the Financing Agreement in the amount of up to US$26 million.

Project Components	Project cost	IBRD Financing	Percent Financing
1. Development and Implementation of Innovative Teaching Practices in Teacher Training Colleges	8.00	8.00	100%
2. Strengthening Collaborative Applied Research and Innovation Teaching across Higher Education Institutions	119.675	119.675	100%
3. Strengthening of Higher Education Indicators and Quality Assurance Models	2.00	2.00	100%
Total Costs	129.675	129.675	100%
Total Project Costs	129.675	129.675	100%
Front End Fees		0.325	

Total Financing Required	130.00	100%

C. Lessons Learned and Reflected in the Project Design

25. **The Project's design benefits from previous WBG HE projects.** First, the Project has been designed based on lessons from competitive funding approaches proven to be efficient for budget allocation in HE within a growing number of countries, and in many cases with Bank support.[12] Second, strong results indicators and rigorous monitoring and evaluation procedures (including one impact evaluation and two process evaluations) have been integrated into the call-for-proposals to assure strong alignment between beneficiary project objectives and the Project results framework.

26. **Component 1 benefits from extensive Bank's experience on teacher capacity building and incorporates best practices into its design**. Several studies[13] have shown that key elements in delivery of in-service teacher include individualized, repeated instruction focused on specific tasks and high teacher-to-teacher collaboration practices. Furthermore, this is also associated with increases in their students' achievement, their performance, and their peers' achievement, when teachers found them useful and comprehensive. In its current design, the CoP methodology includes lessons such as provision of a platform for sharing innovative teaching practices and fostering peer-to-peer collaboration; a focus on specific themes or subjects; individualized support through small peer communities; iterative and continuous monitoring through follow-up meetings; use of education professionals as trainers; and minimal cascading to ensure retention of knowledge and quality throughout capacity building.

27. **The design of Component 2 benefits from Mexico's experience in designing, launching, and monitoring research collaborations across HEIs.** Lessons learned come from three programs – PRODEP's Academic Research Groups, PRODEP's Thematic Networks, and National Council of Science and Technology's (CONACyT) *Call-for-Proposals for Research Addressing National Problems*. The Thematic Networks, launched in 2008, 2011, and 2015, have shown that inter-institutional collaboration can be long-lasting and would serve as a model for achieving broader collaboration across academic groups both nationally and internationally. Since 2013, CONACyT's *Call-for-Proposals for Research addressing National Problems* have shown that researchers can push the frontier of scientific knowledge and use pre-existing knowledge in an innovative way to propose novel solutions to national problems. Yet, there has been low participation across sub-systems in the program. The Project would follow CONACyT's successful structure but add considerable value by: (i) promoting projects requiring larger scale research funding; (ii) linking research output to teaching practices, and; (iii) promoting broader research collaborations to close the knowledge gap across HEIs.

28. **The design of the Project would take into consideration mechanisms to mitigate against potential capacity disruptions due to a change in administration.** The Project Operational Manual would have clear guidelines and procedures that would allow administration changes that ensure clear documentation and support a non-problematic transition. Moreover, the coordination between Public State Universities and Teacher Training Colleges established for component 1 would support ongoing

[12] See for example, Saint (2005).
[13] See for example Popova, Evans and Arancibia (2016) and Ronfeldt et al (2015).

implementation from the practitioner level and the activities in components 2 and 3 would be largely implemented by participating HEIs to further mitigate disruptions to implementation.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

29. **The General Directorate of University Higher Education (DGESU), General Directorate of Higher Education for Education Professionals (DGESPE), and the Office of the Sub-Secretariat of Higher Education within SEP (all under SES) would implement the Project**. DGESU and DGESPE would jointly coordinate Component 1 through establishment of a Coordination Committee, DGESU would coordinate Components 2 and 3.1, and the office of the Sub-Secretariat together with DGESU and DGESPE would implement the impact evaluation in component 3.2. Project activities for Sub-component 1.1 and Components 2 and 3.1 would be carried out by State Public Universities or State Public Universities with Solidarity Support and Project activities for Sub-component 1.2 would be carried out by Teacher Training Colleges and, in some instances, State Finance Secretaries, which would carry out procurement activities on behalf of Teacher Training Colleges in their states.

30. **Components will be implemented as follows:** For Component 1, a joint Coordination Committee would be formed to organize, monitor and evaluate activities. The Committee would be led by the General Directors of DGESPE and DGESU and be composed of 3 staff members from each office (for a total of 8) who would be responsible for the design, implementation, monitoring and evaluation of CoPs. Component 2 would be managed by DGESU as part of their ongoing management of three existing programs PRODEP, PFCE, and ProExoEES. Component 3.1 would be managed by DGESU and Component 3.2 would be managed by SES in coordination with DGESU and DGESPE. In all components except Sub-component 3.2, execution of activities would be carried out by participating HEIs.

31. ***Nacional Financiera*, S.N.C, I.B.D. (*NAFIN*)** would act as the financial agent for the Borrower, managing loan disbursements, and overseeing and supporting project implementation.

32. **For components 1.1, 2 and 3.1, the participating Public State University, Public State University with Solidarity Support or Teacher Training College have in place a *Convenio de Colaboración* with SES for execution of activities under that component.** The *Convenio de Colaboración* details eligible expenditures for each activity and relevant financial information requirements. These agreements outline SES's obligation to provide the funds required to implement the activities and the HEI´s obligation to carry out the activity in compliance with the agreed financial management and procurement provisions**.**

33. **For the implementation of Sub-component 1.2, SES would maintain the pertinent Coordination Agreement with each State participating in the implementation of this Sub-component**, under terms and conditions described in the Project Operational Manual so as to ensure the flow of funds to Teacher Training Colleges required for implementing the activities. In addition, in cases where the State will implement the activities under Part 1.2 (on behalf of a Teacher Training College), the Borrower, through SEP (through SES), would issue a notice (*Oficio*) to the State seeking compliance with Bank's Anticorruption Guidelines through a commitment letter to be issued by the State in response to the *Oficio* and prior to carrying out any activity.

34. **For Components 1.1, 2, and 3.1, the lead Public State University (Autonomous or with Solidarity Support) would sign a *Carta Compromiso*** with SES and the other HEIs who would participate in the activities. The *Carta Compromiso* would also include language on anti-corruption guidelines and disposal of e-waste in compliance with the EMP.

35. **The Secretariat of Finance and Public Credit (SHCP) would sign a contract (*Contrato de Mandato*) with SEP (through SES including DGESU and DGESPE), and NAFIN** whereby SES would carry out the Project in accordance with the provisions of the Legal Agreement including compliance with the Project Operational Manual and the Anti-Corruption Guidelines. The flow of funds and flow of information would be carried out, whenever possible, using the country's mechanisms and systems. SES would also ensure that the Institutions participating in the Project commit to carry out the proposals in accordance with the provisions of the Anti-Corruption Guidelines, which are outlined in the Project Operational Manual.

B. Results Monitoring and Evaluation

36. **Progress towards achieving the PDO and intermediate indicators would be carried out by DGESU and DGESPE.** Monitoring related to Component 1 would be carried out by the Coordinating Committee. Progress towards achieving the PDO and intermediate indicators related to components 2 and 3 would be carried out by DGESU. For component 3, DGESU would carry out short surveys in each meeting to collect information to monitor intermediate indicators and progress of institutional indicator and quality assurance models. For all components, DGESU would aggregate information and send biannual progress reports to the Bank, detailing progress towards the targets in the Results Framework.

37. **In addition, Sub-component 3.2 would support the design and implementation of an impact evaluation and two process evaluations**. To evaluate the impact of communities of practice in Component 1, the Project would provide support to the DGESPE-DGESU Committee to design the instruments for the impact evaluation and the random selection of 160 Teacher Training Colleges and teachers that would participate in the treatment and control groups. For Component 2, the Project would provide support to the team of specialists in DGESU for the construction of instruments to carry out random progress checks across research projects and a process evaluation based on the data compiled from monitoring reports as well as random progress checks. For Component 3, the Project would also provide support to the team of specialists in DGESU for the construction of survey instruments comprised of self-reported surveys.

C. Sustainability

38. **The design of the Project around existing SEP programs and processes supports sustainability**. The long-term Government commitment to support improved education quality at all levels is prioritized under the constitutional reform agenda.[14] The Project would build upon the existing programs in SEP in support of critical HE goals including improved quality and collaborative research. The Project would

[14] Decree number 206 of the Mexican Constitution, Education Reform 2012-2013 (February 26, 2013).

deepen existing relationships established through Academic Research Groups to facilitate broader alliances among HEIs. At the local level, the proposed Project's focus on strengthening collaboration in applied research aligned with local development needs is also important for sustainability by fostering local participation and ownership among stakeholders. Furthermore, the Project has a strong monitoring and evaluation component, which would support an analysis of the ongoing process and its effects on outcomes, allowing Project interventions to be adapted and revised in the medium-term, and helping to ensure sustainability in the long term. The focus on rigorous assessments in the Project design would help ensure that interventions can be sustained over the long term and survive political transitions, bolstered by a solid evidence base. The use of the call-for-proposal mechanism to disburse funds with an objective of committing most of the resources early in the Project would also create opportunities for HEIs and alliances to build in funding support to maintain, as well as foster, new collaborations after the Project. Finally, the alliance structure as well as the CoP structure would allow stakeholders to more effectively leverage and share resources across their networks.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

39. **The overall risk rating is Substantial**.

40. **Sector strategies and policies risk is Substantial**. While the Mexican Government's National Development Plan and Education Reform prioritizes the delivery of a quality and equitable education in promoting cross-sectional development, there are substantial risks in supporting Teacher Training Colleges and the professional development of teachers and facilitators due to the sensitive nature of teacher policies and the ongoing educational reform. Moreover, the Project would foster collaboration between Teacher Training Colleges and Public State Universities on the theme of teacher capacity for the first time. There is inherent risk in the hierarchical perceptions of resources being directed and managed by Public State Universities on behalf of Teacher Training Colleges. Moreover, the strategy of incentivizing collaboration with Public State Universities presents a risk of collaboration of unequal partners. The risk is mitigated by including participation in the capacity building activities within the incentive structure of the Program to Support the Quality of Education and the Transformation of Teacher Training Colleges (PACTEN) and by carrying out broad communication strategies to disseminate information on the Project. Moreover, fostering stakeholders' involvement and ownership would be achieved through the establishment of a joint implementation committee composed of representatives of both Teacher Training Colleges and Public State Universities.

41. **Technical design risk is Substantial**. Component 1 in support of Teacher Training Colleges presents risks associated with the provision of equipment and infrastructure necessary to participate in online platform. Component 2 in support of innovations in teaching through collaborative applied research presents risks involving effective collaboration among dispersed partners. Component 3 focuses on design of models of internal quality assurance and development of indicators that would be implemented at the institutional level, presents coordination and acceptance risks. Mitigation measures would include development of an infrastructure diagnostic which would be undertaken by the Teacher Training Colleges and design of the CoP platform for use on mobile devices in Component 1; raising awareness, providing proposal writing support as well as establishing rigorous evaluation criteria to HEIs submitting proposals in Component 2; continuous involvement of the beneficiaries in the design to

ensure buy-in and broad adoption as well as ongoing monitoring of this process in Component 3.

42. **Institutional capacity for implementation and sustainability risk is Substantial** primarily due to the first-time collaboration between DGESU and DGESPE (and the subsequent collaboration between Public State Universities and Teacher Training Colleges) as well as inherent challenges of SEP's coordination and oversight of activities implemented at HEIs across different sub-systems. An additional level of complexity in Component 2 would be the coordination within HEI alliances in which at least 4 HEIs and the actors involved in those HEIs would collaborate to execute activities. Mitigation measures include an annual progress review to identify challenges and to support implementation of necessary corrections. This focus on review of progress of implementation is also emphasized through the identification of a PDO indicator to monitor the success of alliance activities and the effectiveness of their collaboration.

43. **Fiduciary risk is Substantial**. From an operational perspective, the Project poses considerable implementation challenges due to the complex arrangements in place as well as an entangled flow of funds and information process, which involve a number of actors and various participating universities as deemed eligible by the Project. The fiduciary risk would be mitigated by enacting country mitigation measures, program level mitigating factors, and entity level mitigating measures.

44. **Stakeholders' risk is Substantial**. First, SEP does not have formal oversight over the autonomous and independent stakeholders who would execute the activities. For instance, in the case of component 1, there may be some resistance from educators and similar actors in not actively engaging in the activities. Second, digital infrastructure and the capacity to use digital tools is weak in many HEIs and, therefore, there is a risk of stakeholders not being able to use and maintain some of the digital platforms or participate in converting research knowledge into digital learning materials. Mitigation measures include raising awareness early in the activity, annual report monitoring, and an infrastructure diagnostic process.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

45. **The Project considers its direct development impact to be capacity improvement of participating public HEIs and its indirect and ultimate impact to be improvements in education and labor market outcomes**. The Project's economic analysis makes use of a conventional cost-benefit analysis and focuses on the indirect impact of the Project's Components 1 and 2, considering a time horizon of 15 years from 2017.

46. **Component 1 has an expected impact on the immediate beneficiaries, students at Teacher Training Colleges, and a larger indirect effect on the future students of these trained teachers, the indirect beneficiaries.** The analysis monetizes the additional effect on trained students' earnings if they work as school teachers as opposed to when they work in a different profession.[15] The analysis also monetizes

[15] Evidence shows that only 64% of trained school teachers are actually employed in the profession they studied, and 36% are employed in other professions, which translates into an annual earnings premium of MXN 8,164 or 8% for teachers. Annex 4 presents a reviews of the relevant literature.

the total indirect benefits accruing to impacted students of trained schools teachers (when they become workers) with the yearly earnings. Most of these benefits accrue with a lag of a decade or more, just as it would be expected with a basic education project.

47. **In Component 2, the Project assumes that broadening the use of digital technologies and education innovations in the classroom and enhancing relevance of content through integration of research findings at HEIs in Mexico reduces the dropout rate over the length of a degree course**.[16] The direct benefits of these courses are the earnings gains of students who are retained in HE and graduate with a degree instead of dropping out and entering the labor market with their existing credentials.

48. **Based on the Project's expected impact, the Net Present Value is expected to be approximately MXN 4.9 billion or US$240 million in the current exchange rate of MXN 20.73 per dollar with an Internal Rate of Return of 13% if the present value of the benefits and investment costs are discounted at a rate of 5%.** Given the difficulties in forecasting how increased research activities would be converted into technology transfers to the private and social sectors, this cost-benefit analysis conservatively does not include the impact of collaborative research on regional growth. If we take this into account using estimates in the literature for countries in the frontier, the impact of this Project would be expected to be larger.

B. Technical

49. **The Project is both innovative and efficient in design**. It leverages new collaborations for knowledge sharing among beneficiaries. The teacher capacity building in CoPs aims to create a bottom up process of both critical thinking and creativity in the design and implementation of education innovations to improve learning practices in the classroom. Through the process of evaluating improvements and implementing new ideas or solutions, teachers would learn by doing as well as benefit from peer support and feedback through the CoP structure. Also, the Project leverages competitive funding approaches which are well accepted and proven methods for budget allocation in HE within a growing number of countries.[17] Finally, the Project leverages an existing collaboration structure called PIDES – *Planeación Integral de la Educación Superior* - for supporting a bottom up and demand driven process of internal quality assurance review and improvement.

C. Financial Management

50. **A Financial Management (FM) Assessment was carried out to evaluate the adequacy of the proposed financial management arrangements**. NAFIN would act as the financial agent of the Borrower for the Loan. In that capacity, NAFIN would manage loan disbursement processes and provide other implementation support and oversight based on its many years of experience with Bank-financed projects. The overall strong country public FM arrangements would be applied to this Project as it would be integrated into the national budget which operates under a comprehensive and well-

[16] We assume that the offer of courses that include technological innovations at HEIs in Mexico reduces the dropout rate over the length of a degree course by 5%. For this we take the estimate from Bowen et al (2013). A discussion of the literature is in Annex 4.
[17] See for example: Saint, W. 2005

established legal framework. The Bank would reimburse eligible expenditures based on transfers of agreed upon resources to participating HEIs (*Cuentas por Liquidar Certificadas*) and would be recorded under earmarked budgetary lines. A report detailing those transfers would accompany the SOE with controls to ensure that funds are used for intended purposes. Next, there are well-defined operating rules governing the existing SEP programs, which include strict eligibility criteria for selecting beneficiaries, clear rules for transferring the money, clear and transparent documentation of the program's expenditures, and for the program oversight. DGESU would monitor the expenses which will be subject to the scope of an external audit. SEP has a longstanding experience working with the Bank, and its FM Unit is well staffed with an adequate segregation of functions. Moreover, it conducts a number of periodic reconciliatory procedures to reasonably ensure the accuracy of financial information.

51. In addition, **the Bank would conduct periodic FM supervisions, and the Project would be annually audited by an acceptable audit firm** in accordance with terms of reference acceptable to the Bank.

D. Procurement

52. **Procurement would be conducted according to the World Bank's Procurement Regulations for Borrowers under Investment Project Financing (IPF)**, dated July 1, 2016, for the supply of goods, works, non-consulting services, and consulting services.

53. **Procurement Capacity Assessment.** The SEP through DGESU and DGESPE would be responsible for identifying the HEI's participating in the Project, providing the implementation support, and monitoring the technical and fiduciary aspects. The main Project instrument for the selection of the participating HEI's would be the *Convocatorias* for which the necessary mechanisms already exist. Procurement activities would be carried out by the participating HEIs, in accordance with the rules set forth in Annex 2 and further detailed in the Project Operational Manual. The capacity assessment concluded that SEP through DGESU has the expertise to manage and supervise the implementation of the *Convocatorias*. However, for this Project, the DGESU and DGESPE will be responsible for monitoring and supervising the procurement activities conducted by the participating HEIs, so they would need to strengthen the monitoring and supervising mechanisms, including the designation of a responsible individual that would support and monitor procurement activities.

54. **At central level, at most three contracts under Component 3 would be carried out by SEP through SES**.

E. Social (including Safeguards)

55. **While the risk and the social impacts for this Project are low, the policy for Indigenous Peoples OP/BP 4.10 is triggered.** Given the political context and the strong response to the educational reform in southern regions, SEP has developed an Indigenous Peoples Planning Framework (IPPF) which was consulted with leaders in higher education and civil society. Based on feedback from the consultations, the IPPF focuses on a clear institutional communication strategy including a rapid assessment in order to effectively promote its objectives to Intercultural Universities. Physical Cultural Resources OP/BP 4.11 and Involuntary Resettlement OP/BP 4.12 would not apply. The IPPF was published on the World Bank's external website on February 8, 2017 and on the SEP website on February 8th, 2017 at the following

address: http://www.dgesu.ses.sep.gob.mx/Indice.htm#Span4.

56. **In the case of Indigenous Peoples OP/BP 4.10, DGESU in coordination with the General Coordination of Intercultural and Bilingual Education (CGEIB), would be responsible for implementing the measures related to this policy.** The IPPF focusses on communication strategies for participation of the Intercultural Universities and the monitoring of their participation. The application of this safeguard instrument is included in the Project Operational Manual.

57. **The Project supports the objective of mainstreaming gender practices by** (a) monitoring Project indicators by gender wherever feasible (HEIs that receive project grants would be asked to provide data disaggregated by gender); (b) ensuring that the evaluation process of grant proposals avoids any gender bias; and (c) integrating gender sensitivity awareness as part of capacity building activities and CoPs. Due to the demand-driven nature of the Components' design, the Project would not demand specific activities to close identified gender gaps, but would expect a share of proposed activities to contribute to closing gender gaps (and would monitor such activities as mentioned above).

F. Environment (including Safeguards)

58. **The risks and potential impacts on the environment are considered low and only related with the procurement of informatics and communication equipment needed for the implementation of components 1 and 2**. Moreover, a comprehensive national e-waste management policy is in place.[18] Due to these circumstances, operational policy 4.01 Environmental Assessment is triggered focused on e-waste management. The Project is designated as category B. Attention would be directed toward replacement or obsolescence of equipment that would generate e-waste and require special handling in accordance with the national law. No other environmental operational policies are triggered.

59. **An Environmental Management Plan (EMP) has been developed**, with a focus on the proper handling of e-waste and other waste generated during the infrastructure adaptation, which includes conservation, reuse, recycling and adequate disposal of e-waste. The EMP incorporates mechanisms for monitoring and recording, consultation with stakeholders and the grievance mechanism feedback to be included on the SEP website, which are essential for compliance with the OP. The EMP was developed based on consultations with HE leaders and published on the World Bank external website on January 18th, 2017 and on the SEP website on January 20th, 2017 at: http://www.dgesu.ses.sep.gob.mx/Indice.htm#Span4.

60. **The Project would also report the number of proposals supported in Component 2 and number of education innovations in Components 1 and 2 that are exploring ways to understand, prevent, mitigate, or adapt to climate change**.

[18] (NOM- 161 SEMARNAT-2011). A comprehensive analysis of national regulations for e-waste was carried out by the Environment and Natural Resources office (SEMARNAT) in 2010 as part of the General Law for the Prevention and Management of Waste.

G. World Bank Grievance Redress

61. **Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS)**. The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the WB's corporate Grievance Redress Service (GRS), please visit *www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY : Mexico
Mexico Higher Education Project

Project Development Objectives

Strengthen the institutional capacity for innovative teaching, collaborative applied research, and internal quality assurance across participating public higher education institutions.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Number of Teacher Training Colleges with at least one Community of Practice that implements and documents an educational innovation.		Number	0.00	160.00	Annual	Annual Report from CoPs	DGESPE-DGESU
Description: Number of Teacher Training Colleges with at least one Community of Practice that implements and documents an education innovation. DGESPE would evaluate the content of teacher portfolios, as an indication of implementation of innovative educational practices. An educational innovation is defined as any change from what is the status quo. Each community of practice will define how a subject is taught or the content used as the start of the community of practice and evaluate if a chance has occurred as a result of the community of practice at the end of the semester.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Number of courses that are designed or redesigned to incorporate education innovations as a result of the research of Academic Alliances supported by the project.		Number	0.00	50.00	Annual	Annual report submitted by HEIs	DGESU
Description: Number of courses that are designed or redesigned, which incorporate innovative education practices – a product of the alliances– and are submitted for consideration to academic authorities. Annual reports will include changes that have been made to courses.							
Name: Percentage of Academic Alliances that achieve at least 80% of their annual goals.		Percentage	0.00	85.00	Annual	Annual Progress Report	DGESU
Description: Percentage of projects from academic alliances that achieve results each year by addressing an identified problem in their proposals. DSA would create specific guidelines in order to assess whether or not the proposed problems were addressed.							
Name: Number of participating Higher Education Institutions that have included the quality indicators developed through the Project in their internal quality assurance model.		Number	0.00	300.00	Annual	Reports from Implementation and Annual Reports from HEIs	DGESU
Description: Over a period of 5 years, institutions from each sub-system will meet to develop various aspects of their internal quality assurance systems with the objective							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
of piloting what they have designed at the end of the process.							

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: IRI 1: Number of teachers from Teacher Training Colleges participating in communities of practice (percentage of men)		Number	0.00	4200.00	Annual	Report	DGESPE
Description: Participation will be measured by the number of teachers who start in a community of practice, attend each of the face to face training sessions.							
Name: IRI 2: Number of teachers from Teacher Training Colleges that complete their training in communities of practice (percentage of men)		Number	0.00	2100.00	Annual	Annual Report From HEIs	DGESPE-DGESU
Description: Number of teachers that submit their innovation for assesment at the end of the 6 month training cycle. Based on prior pilots, around 50% of teachers who participate in the CoP complete their training.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: IRI 3: Number of teachers who regularly use the virtual collaborative portal (i.e. visit the website at least twice a month) (percentage of men).		Number	0.00	1050.00	Annually	Data collected from on-line platform and reported in annual reports	DGESPE
Description: Teachers who log onto the site at least twice a month.							
Name: IRI 4: Number of newly consolidated academic research groups participating in Academic Alliances.		Number	0.00	23.00	Annually	Annual Report	DGESU
Description: Number of new academic research groups consolidated as a result of Academic Alliances							
Name: IRI 5: Percentage of professors of the Academic Alliances that are not from public state universities (percentage of women).		Percentage	0.00	40.00	Annually	Annual Report	DGESU
Description: Number of professors not from Public State Universities but rather from the other sub-systems -- technical, teacher training colleges, and pedagogical universities							
Name: IRI 6: Number of		Number	0.00	100.00	Annually	Annual Reports	DGESU

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
digital educational resources resulting from the alliances which are approved and made available.							
Description: A digital resource can be a video, simulation, application, case studies, evaluation, etc. that can be incorporated into a new course. Each project should produce at least two resources							
Name: IRI 7: Number of publications accepted for review in 'indexed' journals resulting from research supported by the Project.		Number	0.00	80.00	Annually	Annual Report	DGESU
Description: Number of 'indexed' journal publications.							
Name: IRI 8: Sub-system diagnostic reports.		Number	0.00	8.00	Annually	Report from consultant managing the 8 regional meetings in 2017 and 2018	DGESU through consultant in charge or organizing meetings
Description: Each sub-system will consolidate the results of the HEIs participating in their sub-systems and submit a report after each year of meetings highlighting results on indicators and internal quality assurance models. The consolidation will be done by the consultant in charge or organizing the 8 regional meetings each year.							
Name: IRI 9: HEIs that have piloted a new internal quality assurance model,		Number	0.00	250.00	Annual	Annual Reports from HEIs	DGESU

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
based on quality indicators							
Description: This will measure the number of institutions that pilot a new internal quality assurance model as a result of the annual meetings on continuous improvement.							
Name: IRI 10: Number of process evaluations completed		Number	0.00	6.00	Annual	Annual Reports	DGESU
Description: The process evaluation for component 2 on random checks with regard to relevance of research on local problems and development of new learning materials as well as the surveys and instruments for component 3. In years 2, 3 and 4 a process evaluation will need to be completed for each component.							
Name: IRI 11: Number of impact evaluations completed.		Number	0.00	1.00	Annual	Annual Reports	DEGSU-DGESPE
Description: At least one impact evaluation designed and implemented to completion.							

Target Values

Project Development Objective Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
Number of Teacher Training Colleges with at least one Community of Practice that implements and documents an educational innovation.	0.00	0.00	0.00	64.00	112.00	160.00	160.00
Number of courses that are designed or redesigned to incorporate education innovations as a result of the research of Academic Alliances supported by the project.	0.00	0.00	0.00	10.00	30.00	50.00	50.00
Percentage of Academic Alliances that achieve at least 80% of their annual goals.	0.00	70.00	75.00	80.00	85.00	85.00	85.00
Number of participating Higher Education Institutions that have included the quality indicators developed through the Project in their internal quality assurance model.	0.00	0.00	0.00	0.00	150.00	300.00	300.00

Intermediate Results Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
IRI 1: Number of teachers from Teacher Training Colleges participating in	0.00	0.00	0.00	800.00	2200.00	4200.00	4200.00

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
communities of practice (percentage of men)							
IRI 2: Number of teachers from Teacher Training Colleges that complete their training in communities of practice (percentage of men)	0.00	0.00	0.00	400.00	1100.00	2100.00	2100.00
IRI 3: Number of teachers who regularly use the virtual collaborative portal (i.e. visit the website at least twice a month) (percentage of men).	0.00	0.00	0.00	200.00	550.00	1050.00	1050.00
IRI 4: Number of newly consolidated academic research groups participating in Academic Alliances.	0.00	0.00	0.00	8.00	15.00	23.00	23.00
IRI 5: Percentage of professors of the Academic Alliances that are not from public state universities (percentage of women).	0.00	40.00	40.00	40.00	40.00	40.00	40.00
IRI 6: Number of digital educational resources resulting from the alliances which are approved and made available.	0.00	0.00	20.00	40.00	60.00	100.00	100.00
IRI 7: Number of publications accepted for review in 'indexed' journals resulting from research supported by the Project.	0.00	0.00	0.00	25.00	50.00	75.00	80.00
IRI 8: Sub-system diagnostic reports.	0.00	0.00	4.00	8.00	8.00	8.00	8.00

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
IRI 9: HEIs that have piloted a new internal quality assurance model, based on quality indicators	0.00	0.00	0.00	0.00	150.00	250.00	250.00
IRI 10: Number of process evaluations completed	0.00	0.00	2.00	4.00	6.00	6.00	6.00
IRI 11: Number of impact evaluations completed.	0.00	0.00	0.00	0.00	0.00	1.00	1.00

ANNEX 1: DETAILED PROJECT DESCRIPTION

COUNTRY: Mexico
Mexico Higher Education Project

The Higher Education System in Mexico

1. **There were more than 800 public HEIs in Mexico in 2015-2016**. The main subsystems include HEIs of the following characteristics:

   a. **Public University Subsystem** includes Public Federal Universities, Public State Universities and Public State Universities with Solidarity Support, and Inter-cultural Universities. These institutions have a large degree of autonomy over management, budgeting, and curricular content. They may also incorporate, and therefore bestow official validity on programs offered at private institutions.
   b. **Technological Education Subsystem** includes Polytechnic Universities, and Federal and Decentralized Technological Institutes. These highly specialized research-based science and technology institutions offer university degrees in engineering and applied sciences. It also includes Technological Universities. These institutions are administered by state authorities but authorized by guidelines established by the SEP and offer two-year technical degree programs incorporating on-the-job training in applied disciplines.
   c. **Teacher Training Subsystem** includes Teacher Training Colleges. These institutions offer undergraduate degree programs for all types and levels of teacher training.
   d. **The National Pedagogical University Subsystem** trains education professionals at the undergraduate and graduate levels, carries out research in educational matters, and generates strategies and educational models to understand and transform national education.

2. **As part of the larger HE System, there are over 2,000 private HEIs whose programs of study are supervised by either federal or state ministries, or by public autonomous universities**. Private HEIs offer all types of degrees in all disciplines. Programs with official validity at private HEIs are incorporated under a public autonomous university or are recognized by the SEP (or other ministry). Thus, the public HE systems plays a large and important role in the quality assurance of private HEIs.

3. **The Project Components focus on the public HE system**. The Components aim at strenghtening the capacity for innovative teaching, collaborative applied research, and internal quality assurance across HEIs.

Component 1: Development and Implementation of Innovative Teaching Practices in Teacher Training Colleges (US$8 million)

4. **The 2013 Education Reform has placed Teacher Training Colleges (TTC) at the center of the discussion for their impact on the quality of the education services received by students**. Nonetheless, both public and private HEIs face important deficiencies and the recommendations from the National Institute for Evaluation of Education include the need to strengthen their organizational management and increase their pedagogical capacity building practices. In that regard, the DGESPE is responsible for institutional strengthening of TTCs in accordance with the guidelines established in the national education curricula and the new education model.

5. **DGESPE supports the organization, operation and transformation of the TTCs into institutions of HE** through the Plan to Support the Quality of Education and the Transformation of Teacher Training Colleges (PACTEN, *Plan de Apoyo a la Calidad Educativa y la Transformación de las Escuelas Normales)* which is a biennial program (2016-2017 and 2017-2018) that aligns each Program for the Strengthening of Teacher Colleges (*Programa de Fortalecimiento de la Escuela Normal, PROFEN)* to Program for the Strengthening of State Management (*Programa de Fortalecimiento de la Gestion Estatal, PROGEN*) within the overall National Development Plan 2013-2018.

6. **The component relies on the concept of Communities of Practice (CoP). CoP is a strategy that seeks to: (i) aggregate people that share a common interest, problem and/or challenge; (ii) share their understanding, skills and experiences to learn in collaboration with one another; and (iii) generate products that can share and disseminate the knowledge that is produced.** The implementation of this approach creates a sense of unity, provides a sense of self-importance to the teachers, favors the acquisition of professional skills, fosters integration within and among different groups and facilitates individual and organizational learning processes. Studies[19] show that when teachers participate in high-quality collaborative exercises that they perceive as comprehensive and useful, there is both, an individual and collective benefit. High-quality collaboration in general and focused peer-assessment among teachers is associated with increases in their students' achievement, their own performance as a teacher, and their peers' students' achievement. In this way, the project will contribute to the 2013 educational reform so that teachers improve their skills, competences and knowledge, form professional networks for mutual support, benefit from peer learning, self-reflection, and experimentation and thereby raise teacher performance, stimulate personal well-being and continuous professional development.

7. **A Coordination Committee would oversee the activities in this Component.** The Coordination Committee would be formed by eight members from SEP: the General Directors of both DGESPE and DGESU, and three staff members from each of their areas that fulfill the necessary requirements to perform the activities mentioned in this phase. Among the functions of the Coordination Committee are: (i) organization of the technical, physical and financial execution of Component 1; and (ii) project design and implementation and the supervision, monitoring and evaluation of the goals and indicators established in the yearly working plans. As part of its responsibilities, the Committee would also define the monitoring reports in compliance with the requirements of each source of resources, as well unified reports for Project monitoring.

8. **The General Directorates would be responsible for performing diverse complimentary activities.** Responsibilities for DGESU would include: (i) design the criteria for Public State Universities (PSU) to collaborate with TTCs in CoPs with the objective of strengthening innovative pedagogical practices in both HEIs; (ii) based on the criteria, invite 7 PSUs to submit a proposal for execution of the project in their region (one in each of the 3 regions and 2 in the larger regions)[20]; (iii) review proposals and confirm

[19] Vescio, Ross, Adams, 2007; Ronfeldt et al., 2015; Ianquinto, Ison, Faggian, 2011; Brouwer et al., 2012.

[20] Northwest Region – 37 TTCs (Baja California, Baja California Sur, Chihuahua, Sinaloa, and Sonora); Northeast Region – 35 TTCs (Coahuila, Durango, Nuevo León, San Luis Potosí, and Tamaulipas); West Region – 46 TTCs (Aguascalientes, Colima, Guanajuato, Jalisco, Michoacán, Nayarit, Querétaro, and Zacatecas); Central Region is divided in two due to

participation of the 7 universities in consultation with the DGESPE´s Committee members; and iv) confirm the selection of seven Pro-facilitators (one for each PSU) that fulfill these criteria: disciplinary knowledge, legitimacy and recognition from their area, leadership skills, high performance in its teaching post and a good attitude, disposition and time availability to participate in the Technical Group.

9. **To complement the activities carried out by DGESU, DGESPE would**: (i) develop a first diagnosis of the main challenges and weaknesses of the students from TTCs, with information from the Profiles, Parameters and Indicators for Basic Education level teachers (Perfiles, 2016), a document published by the National Institute for Educational Evaluation (INEE) with the results from the National Teaching Post Competition, that would help to establish the priority topics for the work to be performed in the CoPs; ii) execute an equipment and connectivity diagnosis for all TTCs; iii) select seven TTCs, one or two for each region, taking into account the PSUs selected; iv) select seven Pro-Facilitators, one for each TTC with the same criteria mentioned above; and v) revise the PACTEN for years 2018, 2019, 2020 and 2021 to align incentives at the institutional and teacher level to participate in CoP.

10. **The call for proposal by invitation documentation for DGESU would describe the human and technical resources that the PSU would provide to the TTCs in their region to facilitate this alliance**, and include expenses such as: lodging, transportation for visits from the PSUs to the CoP to share their experiences and knowledge regarding their region´s CoP topic; costs for participation in summits, conferences and other related activities. The PSUs should comply with the basic requirements to participate in this project, such as: minimum connectivity level, economic resources to cover capacity building expenses (Academic Research Groups, comprehension of diverse pedagogical practices, among others), and be open to collaborate with TTC and other State Public Universities.

11. **Sub-component 1.1: Support for the design, facilitator capacity building and assessment of CoP.** This Sub-component would provide support for the design of the CoP through pilot implementation; the capacity building for facilitators to support the implementation of the CoP model; and the development and application of an assessment framework to support education innovations. PSUs in alliances with TTCs would carry out activities, including:

    (a) design and piloting of the CoP model based on the main challenges encountered by TTC graduates and a semester long process of defining, implementing and assessing educational innovations in the classroom;
    (b) implementation of the capacity building program for the facilitators of the CoP model;
    (c) preparation of guidelines to monitor and assess the CoP and the innovative pedagogical teaching practices resulting from the CoP implementation activities in Sub-component 1.2.

12. **The first phase for this Component is the design and piloting of the CoP model based on the main challenges encountered by TTC graduates and a semester long process of defining, implementing and assessing educational innovation practices in the classroom.** The Alliances between the 7 PSUs and the 7 TTCs would identify an initial leader from each institution who would form the first CoP as a Technical Group as outline in the Operational Manual to oversee the financial and technical execution, acting as

its size – 71 TTCs (Ciudad de México, Estado de México, Hidalgo, Morelos, Puebla, and Tlaxcala); Southeast Region is also divided in two –74 TTCs (Campeche, Chiapas, Guerrero, Oaxaca, Quintana Roo, Tabasco, Veracruz, and Yucatán).

an executing unit. The group would have the responsibility of providing support to the design and implementation of the CoP model as well as supervision, monitoring and assessment of the goals and educational innovations of each CoP established in their region. The design of the CoP would take into consideration a diagnosis of the fundamental academic problems that influence the Teacher Training Colleges students´ performance with the objective of outlining priorities for the work that needs to be completed in the CoP. The group would develop the methodology that will be used to form the CoP including selection of a digital platform. This first group of 14 individuals designated as Pro-facilitators would form the first CoP and would adapt the methodology based on a hands on implementation process in their institutions (July-December 2017). This Technical Group would design the capacity building workshop to implement in the second implementation (January – June 2018) based on the lessons learned through the hands on implementation, including refinement of the digital platform and the production and adaptation of materials, among others. The Technical Group would have monthly meetings (videoconferences) to complete the refinement of the methodology. The workshop design and CoP methodology will be iterative and would be evaluated each year with necessary adjustments made to the model.

13. **The second phase is the implementation of the capacity building program for the facilitators of the CoP model.** This activity involves selection and testing of CoP methodology with Regional Facilitators. Each alliance partner would identify 5-6 facilitators for a total of forty facilitators from PSUs and forty from TTCs. First, the Coordination Committee of DGESPE (CC-DGESPE) would sensitize the 263 TTCs about the Project. Next, based on demand and through PACTEN´s revision and the prioritization of regional participation, the CC-DGESPE would randomly select the first 80 TTCs that would participate (73 new TTCs would be added to the existing 7 TTCs) and also 80 TTCs that would be part of the control group. From this initial 80 TTCs, 40 teachers would be selected as Regional Facilitators and paired with 40 Facilitators from the PSUs fulfilling the following criteria: disciplinary knowledge, legitimacy and recognition in their subject area, leadership skills, high performance in teaching, a good attitude and disposition, and time to perform the expected activities. These 80 individuals would then be organized into 7 CoP – with the 2 pairs of Pro-Facilitators leading a group of 11-12 regional facilitators. Another pilot round of delivery will be given to the 80 regional facilitators and based on lessons learned through implementation, the methodology will be refined for delivery at institutional level starting in July 2018.

14. **To evaluate the effectiveness of CoPs, the Bank team would provide technical assistance support to the Coordination Committee during the second phase to design the projects´ impact evaluation, including, among others, the formation of the sample group of TTCs that would participate in the CoP as well as the control group.** This design would allow for: (i) a short-term assessment of teacher participation in CoP and development of innovative pedagogical practices in the classroom and (ii) a long-term assessment of the impact of the incorporation of innovative pedagogical practices in the classroom. The impact assessment will be carried out under Sub-Component 3.2.

15. **The third phase includes the preparation of guidelines to monitor and assess the CoP and the innovative pedagogical teaching practices resulting from the CoP implementation in Sub-component 1.2**. For the monitoring process of the CoP in the TTCs, the Technical Group and Regional Facilitators are responsible of supervising the CoP development formed in sub-component 1.2. The Regional Facilitators and the Technical Group should convene regularly each school year to identify strengths and weaknesses in the process and to improve the model. In order to facilitate this process of learning and improvement, the Technical Group would collect the information regarding the CoPs by means of a

check-list that includes organization, human resources, source of resources and other aspects of the CoP via the digital platform. There would be meetings to be carried out during the school year in each region in which the Institutional Facilitators from each CoP and the Regional Facilitators, and one member from the Coordination Committee who will act as supervisor, would partake. The purpose of these meetings is to share experiences and solve problems. Parallel to this, there should always be constant communication via online forums, social networks and others, hosted on the digital platform.

16. **For the assessment, the Technical Group would be responsible of assessing the results from the CoP formed in sub-component 1.2, taking into consideration the innovations developed as the final product from the CoP and the organizational knowledge generated through collective and individual exchanges.** Each CoP should fill out an online self-evaluation questionnaire that would serve as input to establish the guidelines for evaluating innovative pedagogical practices, and that would be used by the Coordination Committee. The instruments used in the evaluation would be adapted from those that exist in international literature.

17. **Sub-component 1.2: Support for the implementation of CoP model and dissemination of CoP innovative pedagogical practices.** This Sub-component would provide direct support for the implementation of CoP model in TTCs and dissemination of the CoP innovative pedagogical practices through the following activity: the provision of Direct Support for the carrying out of CoP implementation consisting of one or more of the following activities, *inter alia*: (i) participation in capacity building events and other relevant events; (ii) production of relevant teaching materials; (iii) upgrade and maintenance of digital and technological infrastructure; (iv) publication and dissemination of innovative pedagogical teaching practices resulting from the carrying out of CoP implementation; and (v) the design and implementation of a communication and dissemination strategy on the results of the activities carried out above; including the organization of events to share experiences and best practices.

18. **This sub-component would consist of implementation of the model at the institutional level.** Implementation will occur throughout the duration of the Project and be implemented in 6 month cycles in line with academic semesters. This Sub-component includes the following implementation activities:

    a) Institutional delivery in 80 TTCs. The first generation of the 80 Institutional Facilitators (Institutional Facilitators-1st Generation, IF-G1 in short) will collaborate with the Regional Facilitators to implement the first generation CoP in their institution in two 6 month cycles from July 2018 to June 2019. The 40 TTC Regional Facilitators and the 40 PSU facilitators would form a team and be responsible for 2 CoPs by mentoring the 80 new Institutional Facilitators in delivery of the methodology. As a first step, the IF-1G should elect one topic identified by the Technical Committee in accordance with the directors and teachers from their school which is aligned with the challenges identified in their institutions – this will be the challenge for which the CoP will develop their innovation. The 80 Institutional Facilitators would form the first 80 CoP and be supported by the 2 regional facilitators. The group of teachers that would participate in the CoP should be interdisciplinary so as to foster a range of approaches to address the challenge. The Regional Facilitators would follow up and provide support to the IF-G1 from the first 80 CoP.
    b) Expansion to 60 TTC in next academic year (July 2019 – June 2020). The expansion would consist of delivering capacity building activities to 60 new Institutional Facilitators (Institutional Facilitators-2nd

Generation, IF-G2 in short) in TTC for the CoP in their institutions; strengthening the pedagogical practices of the Institutional Facilitators from the previous generation; and continuing to support the ongoing CoP from previous generation. Based on the lessons learned from previous generation, adjustments to the CoP methodology and practice could be implemented in the subsequent phases In the TTCs where there is interest to form a new CoP and when they have a sufficient number of teachers, the TTC would select a new Institutional Facilitator in line with the terms of reference that were previously established. The Regional Facilitator would mentor these new Institutional Facilitators from the TTCs in the seven regions at the same time, always with the participation of the Coordination Committee. Moreover, the Regional Facilitators will still support facilitators from previous generations.

c) Expansion to 60 TTC in next academic year (July 2020 – June 2021). The expansion would consist of delivering capacity building to 60 new Institutional Facilitators (Institutional Facilitators-3rd Generation, IF-G3 in short) in TTC for the CoP in their institutions; strengthening the pedagogical practices of the Institutional Facilitators from the previous generations; and continuing to support the ongoing CoP from previous generations. Based on the lessons learned from previous generation, adjustments to the CoP methodology and practice could be implemented in this phase. In the TTCs where there is interest to form a new CoP and when they have a sufficient number of teachers, the TTC would select a new Institutional Facilitator in line with the terms of reference that were previously established. The Regional Facilitator would mentor these new Institutional Facilitators from the TTCs in the seven regions at the same time, always with the participation of the Coordination Committee. Moreover, the Regional Facilitators will still support facilitators from previous generations.

19. **For diffusion purposes, a communication strategy to disseminate and raise awareness regarding the work done in the CoP and to promote the innovative pedagogical practices would be developed**. More specifically, the strategy would include: i) finding appropriate and relevant communication channels for each target population; ii) implementing this strategy through an integrated and multi-channeled campaign; and iii) implementing perception questionnaires to inform adjustments to the design of the project. Moreover, TTCs in consultation with the Coordination Committee would organize and support regional and national forums to recognize the best teachers and their innovative pedagogical practices.

20. **Each Institutional Facilitator would elaborate a dissemination plan of the achievements and results of their CoP**, in consultation with the teachers that comprise the community. This plan should: i) reproduce the knowledge generated by the CoP products in a way that they can be understood by people who are not familiar with the specific topic via means of communication such as workshops, physical and digital brochures, among others. In all cases, it should include a systematization of the achievements and results from the CoPs in the digital platform.

***Table 1**: Component 1 phases*

Phases	Phase 1: Coordination Committee	Phase 2: Coordination Committee and Technical Group (Regional-Facilitators)	Phase 3: Communities of Practice in TTC – 1st Generation	Phase 3: Communities of Practice in TTC – 2nd Generation	Phase 3: Communities of Practice in TTC – 3rd Generation
Date	January – June 2017	July 2017 – June 2018	July 2018 – July 2019	July 2019 – July 2020	July 2020 – July 2021
Objective	Providing a diagnosis of the fundamental academic problems that influence the Teacher Training Colleges students´ performance with the objective of outlining the priorities for the work that needs to be done in the CoP.	• Adaptation of a methodology for the formation of the CoP based on successful practices. • Design of a capacity building workshop for the CoP facilitators. • Re-orientation of the Rules of Operation of the PACTEN-PFCE for the upcoming years 2018 to 2021 to be able to carry out this project	Training 80 Institutional Facilitators so they can be moderators in the Communities of Practice in their Teacher Training College and implement them in their own schools.	• Training of new 60 Institutional Facilitators (Generation 2) in Teacher Training Colleges in their role as moderators of the CoP in their institutions. • Strengthening the pedagogical practices of the Institutional Facilitators from Generation 1. • Implement new CoP in the TTC that will be part of Generation 2. • Support ongoing CoP from Generation 1.	• Training of new 60 Institutional Facilitators (Generation 3) in Teacher Training Colleges in their role as moderators of the CoP in their institutions. • Strengthening the pedagogical practices of the Institutional Facilitators from G1 and G2. • Support ongoing CoP from Generation 1 and Generation 2. • Implement new CoP in the TTC that will be part of Generation 3.
Activities	1. Installment of a Coordination Committee formed by eight members: both General Directors of DGESPE and DGESU, and three staff members from each of their areas that fulfill the necessary requirements to perform the following activities: 2. DGESU: i) Design call for proposals inviting the Public State Universities (PSUs) to collaborate with the Teacher Training Colleges in Communities of Practice with the objective of strengthening innovative pedagogical	1. DGESPE members who participate in the Coordination Committee (CC-DGESPE) revise the PACTEN for years 2018, 2019, 2020 and 2021. 2. The Coordination Committee teaches the methodology that will be used to form the CoP to the first 14 Regional Facilitators (to be done July 2017 – December 2017). 3. The Technical Group adapts the methodology for the formation of the CoP (August-December 2017). 4. The Technical Group designs the capacity building workshop to implement with new Regional Facilitators (January-June 2018)	1. The Regional Facilitator's will train the first generation of the 80 Institutional Facilitators. 2. The IF-G1 should elect one topic from the call for proposals in accordance with the directors and teachers from their school aligned with the challenges identified in their institutions. 3. The 80 IF would form the first 80 CoP, one in each TTC in agreement with the chosen topic. The group of teachers that will participate in the CoP should be interdisciplinary. 4. The Regional Facilitators follow up and provides support to the IF-G1 from the first 80 CoP as	1. The IF-G1 will continue moderating the CoP formed in earlier year. 2. Based on the lessons learned from this implementation (IF-G1) new CoP could be created in next cycle. In this case, the Technical Group will train the facilitators responsible (IF-G2) of the new CoP. 3 In the TTCs where there is interest to form a new CoP and when they have enough teachers, the TTC should select a new Institutional Facilitator in line with the terms of reference that were previously established. The Regional Facilitators of each region will train the new	1. The IF-G1 and IF-G2 will continue moderating the CoP formed in earlier years. 2. Based on the lessons learned from this implementation (IF-G2) new CoP could be created as the third generation. In this case, the Technical Group will train the facilitators responsible (IF-G3) of the new CoP. 3 In the TTCs where there is interest to form a new CoP and when they have enough teachers, the TTC should select a new IF in line with the terms of reference that were previously established. The Regional Facilitators of each region will

	practices in both higher education institutions. ii) Evaluation of the selection process of seven State Public Universities (one for each region), in consultation with the DGESPE´s Committee members. iii) Selection process of even Regional Facilitators (one for each PSU). 3.DGESPE: i) Elaborate a first diagnosis of the main challenges and weaknesses of the students from the TTC, with the purpose of identifying the priority topics for the work to be performed in the CoP. ii) Performance of an equipment and connectivity diagnosis. iii)Selection of seven TTC, one for each region, considering the requests presented in the call for proposals and in alignment with DGESU. iv)Selection process of seven Pro-Facilitators, one for each TTC. 4. Elaboration of a study that measures the dedication and the adequate compensation for the Regional Facilitators. 5. Conformation of the Technical	including the digital platform selection and the production and adaptation of materials, among others. 5. Through PACTEN´s revision and prioritizing regional participation, the CC-DGESPE randomly selects the first 80 TTC that would participate and the 80 that would be part of the control group. 6. The 80 TTC participating choose an Institutional Facilitator for each school that fulfills the Terms of Reference already mentioned. 7. CC-DGESPE informs the 80 TTC that will participate and the 80 that will be part of the control group that will accompany their project along with an evaluation of the methodology.	established in the special call for proposals.	teachers with support from the IF-G1. 4. The Regional Facilitators would mentor these new 60 IF from the TTC. 5. The Regional Facilitators together with the Technical Group will follow-up and support the IF-G2 of the 60 new CoP and the 80 IF-G1.	train the new teachers with support from the IF-G1 and IF-G2. 4. The Regional Facilitators would mentor these new 60 IF. 5. The Regional Facilitators together with the Technical Group will follow-up and support the IF-G3 of the 60 new CoP, 80 IF-G1, and 60 IF-G2.

	Group representing the 7 regions, the PSUs and the TTCs (14 Regional Facilitators and 6 technicians from the Coordination Committee).				
Pro-facilitators	14	14	14	14	14
Regional Facilitators	0	80	80	80	80
Institutional Facilitators that are also moderators	N/A	N/A	80	140	200
Teachers in Communities of Practice	N/A	N/A	800	2,200	4,200
Funds	Funds from the General Directorates involved.	The PSUs and the TTC would use the resource given to the PSUs through the call for proposals (PRODEP).	The participation of the PSUs in the first phase would be financed with the funds assigned via PRODEP for proposals and the TTC would be covered by the PACTEN-PFCE 2018-2019.	The participation of the PSUs in the first phase would be financed with the funds assigned via PRODEP for proposals and the TTC would be covered by the PACTEN-PFCE 2019-2020.	The participation of the PSUs in the first phase would be financed with the resource assigned via PRODEP for proposals and the TTC would be covered by the PACTEN-PFCE 2020-2021.

Component 2: Strengthening Collaborative Applied Research and Innovation Teaching across Higher Education Institutions (US$120 million)

21. **The objective of this component is to strengthen collaborative applied research and innovative teaching across Academic Research Groups and promote the formation of long-lasting cutting-edge academic alliances among public HEIs.** This component would support competitive research grants for the development of collaborative applied research and the implementation of education innovations resulting from applied research for improving teaching and learning processes and content. Research collaborations are aimed at fostering innovative ideas for local, regional and national strategic development and at improving teaching and learning processes through broadening the use of digital technologies for creating and disseminating new learning materials and courses. Since 2002, the role of Academic Research Groups – composed of full-time teachers - has been to promote the innovative production and application of knowledge through a high degree of specialization in areas that are relevant to national development, aiming at achieving high quality education in higher education

institutions.[21] DGESU through the Directorate of Academic Improvement (*Dirección de Superación Académica*, DSA) has already been working towards achieving broader collaboration across Academic Research Groups both nationally and internationally through issuing Calls-for-Proposals focused on the formation of thematic networks and digital networks for learning, supporting over 350 projects in 2008, 2011, and 2015, which indicates that there would be potential interest in the formation of successful inter-institutional collaborations.

22. **The criteria for approving grants would include**: (i) a coherent research plan across Academic Research Groups proposing research that addresses relevant local, regional or national development issues[22]; and (ii) a plan for the design or redesign of courses that include education innovations created as a result of the alliances. Special consideration would be given to proposals that show cost-effectiveness in promoting the use of ICT in classroom teaching-learning processes and digital skills development. Furthermore, the Project would encourage proposals that promote equity among disadvantaged socio-economic institutions, gender, and indigenous groups. Academic alliances must (i) be led by Autonomous PSUs or PSUs with Solidarity Support, and (ii) include participation of Academic Research Groups from four or more HEIs of other sub-systems - including at least one TTC - in the same macro region. Federal funding for this component would derive from three programs - PRODEP, PFCE and ProExoEES - and projects would need to comply with their guidelines and rules of operations. Eligible costs would include: (i) capacity building activities of staff members of the HEI participating in the alliance to strengthen the research and teaching skills; (ii) visiting researchers (international researchers to Mexico and Mexican researchers abroad); (iii) industry apprenticeships for researchers and students to strengthen collaborations with other sectors; (iv) adaptation of physical infrastructure, including support of procurement for laboratories and equipment, for the facilitation of improved research and teaching practices; (v) organization and participation in meetings, including conferences and workshops, to improve knowledge and learning related to the project; (vi) software and hardware, and other information and communication technology equipment; and (vii) inputs including research materials and tests.

23. **The structure of this component would follow a similar framework used by the National Council for Science and Technology (*Consejo Nacional de Ciencia y Tecnología* - CONACyT) Call-for-Proposals and incorporate the lessons learned by CONACyT into its design**. Since 2013 CONACyT has issued an annual call for research project proposals that aims to use science to address national problems. This call is based on the provisions of the 2013-2018 National Development Plan 2013 to strengthen scientific, technological and innovation development pillars to achieve sustainable economic and social progress and based on the provisions of the Law on Science and Technology (LCYT) to support the integration of the National System of Science and Technology, increase the scientific, technological and capacity of researchers to solve major national problems. Likewise, the 2013-2018 Sectorial Education Program, through its strategies and lines of action that refer to it, complements what CONACYT and its Special Program on Science and Technology and Innovation (PECITI) promotes. It encourages collaborative

[21] Academic Research Groups fall under the umbrella of its teacher improvement program (PROMEP). Currently there are 1,154 consolidated Academic Research Groups, 1,435 groups in the process of being consolidated, 2,351 in the process of being formed.

[22] National problems are defined as those prioritized by the Special Program on Science, Technology and Innovation 2014-2018 (PECITI) within the areas of environment, knowledge of the universe, sustainable development, technological development, energy, health and society.

work, strengthening of research capacities in HEIs in the country's priority areas as well as promotes knowledge networks in which researchers participate; fosters links between HEIs with productive and social organizations; the number and level of National researchers in HEIs is increased and their links with undergraduate programs are promoted. All this to encourage the competitiveness and productivity that the country requires. As such, CONACyT invited HEIs, Public Research Centers and in general to public sector institutions, at the federal or state level, carrying out scientific, social or technological development research activities. DGESU invites all public HEI in the country to submit proposals for this call. In these proposals, researchers and Academic Research Groups are expected to push the frontier of scientific knowledge or use pre-existing knowledge in an innovative way. Through the results of their research, researches are expected to find or propose novel solutions to national problems or to obtain results or ideas that can have a social impact or lead to practical applications using high technology, with the potential to be used for the development of country.

24. **This component adds considerable value to the work started by CONACyT by promoting larger scale research funding, linking research output to teaching practices, and promoting broader research collaborations to close the knowledge gap across HEIs.** First, while CONACyT's project outputs focus more specifically on having a broader impact, the research projects funded by the Project would also support the transformation of research output into education innovations in the classroom, making research outputs to relevant to teaching practices. Second, the Proposals would support larger scale projects, that is, the disbursement of research funding would average MXN 50 million, while CONACyT's research funding averaged approximately MXN 1.3 million, MXN 1.7 million, MXN 2.1 million in 2013, 2014, and 2015 respectively, per project. Third, while 70% of CONACyT's proposals are granted to individual researchers and 30% are granted to groups of researchers, the Project would put emphasis on the formation of Academic Alliances, fostering long-lasting collaborations to encourage research knowledge exchange and close gaps across Higher Education Institutions. Historically, less research-intensive public HEIs (i.e. those that are not State or Federal Universities) have received less than 10% of CONACyT's funding during these calls. Through these collaborations, the Project would be promoting the participation of these institutions.

25. **The design of the component leverages existing SES instruments and call for proposal processes.** The component would leverage three existing government programs – Program for Teacher Professional Development (PRODEP); Program for Strengthening Quality Education (PFCE); and Program to Expand the Supply of Higher Education (ProExoEES). The component also leverages the competitive grant process instrument to incentivize Project objectives. By supporting and strengthening existing SES programs and processes, the Project would support the objectives of broader HEI collaboration, more relevant research, and creation of innovations with a greater level of efficiency and lower risks than other design options. The team would briefly assess the disciplines of the proposals received to establish external multi-disciplinary committees (by invitation) for evaluating proposals.[23]

26. **Preparation activities would be carried out by a team of specialists from DGESU**. These activities include: (i) designing a general call for proposals to invite PSUs to form the alliances; and (ii) awareness raising activities, such as workshops, focus groups, diagnostics, and proposal writing support. SEP has currently carried out a series of integrated planning meetings with HEIs in each region to establish a

[23] Activities to take place in August 2017.

framework for inter-institutional collaboration in activities that contribute greater efficiency, relevance and effectiveness of the system of HE. The team would briefly assess the disciplines of the proposals received to establish external multi-disciplinary committees (by invitation) for evaluating proposals.[24] The Project would also ensure that the evaluation process for grant proposals are reviewed to avoid any negative potential gender bias. After a rigorous evaluation process, successful proposals would be identified for funding.[25]

27. **Monitoring activities would ensure attainment of objectives and the successful consolidation of institutional collaborations within and across HEIs.** Monitoring activities would be executed by a team of specialists from DGESU through reviews of technical and financial quarterly reports and annual target monitoring reports. Based on execution status, if there are additional resources due to execution delays or cancellations of projects, there would be a second call for proposals. The team would also conduct a diagnostic of the existing process data collected of projects and lead random progress checks (and collection of additional information as needed) of research projects being conducted by groups within academic alliances.

Component 3: Strengthening of Higher Education Indicators and Quality Assurance Models (US$2 million)

28. **Under the umbrella of the Education System, a large number of institutions are responsible for the planning, monitoring and evaluation of Mexico's multifaceted HE System**. This institutional setup presents challenges for cohesive evaluation and quality assurance of HEIs and programs as well as for the effective planning, monitoring and evaluation of the HE system.

29. **There is also a vast amount of information on students, programs and institutions being collected by different actors and a variety of platforms of differing quality used to disseminate this information.** For example, SEP collects statistical snapshot data such as information on students, personnel, teachers, classrooms, and family expenditure for education using the well-known 911 Questionnaire - the largest education data collection effort in Mexico - and feeds this to a number of databases. However, many other bodies - at both the government level as well as the HEI level – also gather information on their students, courses, etc. using a range of difference tools. These multiple efforts in data collection and dissemination result in a fragmented systems of information in HE with a wide range of indicators used to measure internal quality across and within the various sub-systems.

30. **The objective of the component is to improve the internal quality assurance indicators and systems of participating HEI's in support of continuous improvement and have impact and process evaluations of the Project.** The component has two Sub-components, one related to the improvement of quality assurance and quality indicators at the program-level; institution-level; and sub-system level and a second on impact and process evaluations of the Project. The component would build off of an existing

[24] Activities to take place in August 2017.

[26] All SOE supporting documentation will be available for review by the external auditors and Bank staff at all times during Project implementation, until at least the later of: (i) one year after the World Bank has received the audited Financial Statements covering the period during which the last withdrawal from the Loan Account was made; and (ii) two years after the Closing Date. The Borrower shall enable the World Bank's representatives to examine such records.

process of inter-institutional collaboration called PIDES – *Planeación Integral de la Educación Superior* (*www.pides.mx*) in which over 800 institutions have gathered during 14 meetings to discuss and create projects focused on 7 priority areas as defined by the institutions – Access, Learning, Quality, Relevance, Technology, Research, and Continuous Education. PIDES represents the first time that institutions from distinct sub-systems have come together to discuss quality improvement. The meetings have been very successful and the institutions have demonstrated strong enthusiasm to cooperate. Over 80 collaborative projects have been designed to begin to address challenges in 7 priority areas. While this process has launched important discussion on quality and collaboration among institutions, it has also raised additional challenges such as the large gaps that exist with regard to indicators and quality assurance mechanisms both between sub-systems and within sub-systems; the lack of a common language for measuring quality; the existence of many indicators that are not relevant to the institutions; and the lack of discussion around new indicators. In order to build off of this base of communication and knowledge sharing and with the objective of creating new models for program-level; institution-level; and sub-system level indicators and quality assurance mechanism, the PIDES process would be continued over the course of the Project with the following sub-components.

31. **Sub-component 3.1: Development of indicators and pilot of new models for internal quality assurance.** This Sub-component would bring together all public HEIs from the eight regional groups participating in PIDES to engage in 5 iterative working groups over 5 years of the project. Each year will address a distinct theme and support development of continuous improvement plans in each institution. The 5 annual themes are as follows:

    a) **Diagnostic and comparative study of system of indicators in Higher Education Institutions**. This activity would bring together the eight regional groups participating in PIDES in a workshop to review existing indicators per sub-system at the program, institutional, and sub-system level. The meetings would also include international experience and participation of international universities from each sub-system to share their experience in identifying and prioritizing indicators. The groups would form projects to identify common indicators across HEIs, prioritize these indicators, and identify those that are not used or are not relevant to their context. At the end of the activity, each project would present a set of common prioritized indicators for the program-level, institutional level, and sub-sector level.
    b) **Creation of new models for internal quality assurance using HE Indicators**. This activity would build off of the first activity to now apply the prioritized indicators to a model for quality assurance in each of the four sub-systems. International universities would again be invited to share their experiences in development and application of internal quality assurance models. The participants would develop their projects to articulate the way in which they will gather and analyze information for improvement plans at program, institution and sub-system levels. The result will be proposals to inform new model for internal quality assurance for each sub-system focusing on how to use the indicators for continuous improvement.
    c) **Contrasting the models of HEI indicators for quality assurance with existing models, taking into consideration new perspectives.** This next activity would introduce innovative methodologies for improving use of data, new ways to measure quality, review of quality objectives that are not clearly measured, etc. This activity would actively seek out and invite international universities engaged in innovative initiatives to improve quality. Examples might include use of big data, open data, Bologna process, measuring relevance, measuring new socio-emotional competencies, etc. Based on dialogue during the meetings, the institutions would critically analyze what they have developed

in the first two activities and international examples shared in order to create projects around new concepts for improving quality. During the Bank´s consultation visits in November 2016, 4 HEIs presented their internal quality assurance systems and showed substantial differences in their way their international regulatory framework is organized, published, linked to mission and strategic planning as well as in who is responsible to carrying out internal quality assurance, what activities are covered, what information and tools are used, and the frequency with which quality outcomes are reviewed. For example, all HEIs have indicated that they are have a publicly available strategic document that describes their internal quality assurance framework, of which all of these frameworks describe processes and procedures, but 3 describe norms and 2 describe responsibilities. The unit responsible and the breadth of coverage of these frameworks vary according to University size and endowment. For example, Guadalajara and Michoacán University have offices dedicated to quality control and are able to check their indicators more readily than the University of Colima who does not have a unit or office responsible and only checks their quality assurance indicators once a year. The universities used wide variety of instruments to collect information, ranging from exams, survey and focus groups.

d) **Designing models for quality assurance and continuous improvement of new and existing programs and institutions in Mexico's HE System.** This activity would aggregate and build on all prior activities to develop proposals that focus on a new and relevant model for quality assurance that corresponds to the needs and objectives of each sub-system. These proposals would design and develop models that would be piloted in the subsequent final phase 5. National evaluation and assessment agencies would be invited to these meetings to dialogue with institutions on the findings over the prior three years that are informing the design of the new models. At the end of the phase, each sub-system would have a number of models that would be ready for the pilot.

e) **Pilot implementation and evaluation of new models of quality assurance, taking into consideration new perspectives by type of HEIs.** This final activity is the culmination of the 4 prior years and the point at which the participating institutions would implement the models designed in the prior year and evaluate the experience. The pilot would inform changes to the internal quality assurance system of the participating institutions and the aggregate of all pilots would inform the national external quality assurance system.

32. **Sub-component 3.2: Supporting Impact and Process Evaluations**: **Evaluating the impact of communities of practice on teacher and student outcomes.** Component 1 aims at strengthening innovative pedagogical practices in TTCs through the creation and implementation of communities of practice. As a first step, DGESPE would include in-service teacher capacity building through communities of practices in their rules of operations and it would be made available to all TTCs. However, historically less than 20% of TTCs have adopted new programs in the first year. Thus, as a second step, in order to encourage participation and evaluate the effectiveness of these communities (and given the lack of consensus in the literature on in-service teacher training more generally), the Project would provide support to DGESPE to randomize a group of 80 TTCs that would receive more information and be encouraged to participate and allocate of budget for this capacity building program in the first phase. Another group of 80 TTCs would serve as control. The impact evaluation would be confirmed after the sample of TTCs participating in the first phase is confirmed. Within participating TTCs, assignment of teachers for participation in communities of practices and subsequent assignment of students or classrooms to teachers would also be done through randomization. Random assignment within TTCs suggests that we can respond to the identification challenges in understanding causal impact of teacher effects on student outcomes. This design would allow for (i) a short-term assessment of teacher

participation in communities of practice and development of innovative pedagogical practices on teaching practices in the classroom through regular classroom observations and (ii) a long-term assessment of the impact of the incorporation of innovative pedagogical practices in the classroom on student outcomes. Control TTCs would be encouraged to remain without treatment for at least one year with a maximum of two years. This impact evaluation would require three types of data: (a) existing administrative data on classrooms, teachers and students, (b) classroom data collected through observations, and (c) student performance data collected through a standardized test at baseline and endline.

33. **Evaluating the process through which research funding leads to successful collaborative applied research projects**: One of the objectives of Component 2 is to promote and strengthen the formation of cutting-edge academic alliances across HEIs through the provision of funding to produce applied research. In order to evaluate whether the provision of research funding leads to successful collaborative applied research, the Project would support the design and implementation of a process evaluation through using the data from annual reports and from random progress checks of research of specific projects being conducted by Academic Research Groups within academic alliances. The objective of the progress check would be to verify whether specific projects are being developed in agreement with the requirements of the call-for-proposals, namely, if specific projects are developing research that are aligned with local or national development needs and are developing education innovations based on the results of their research to be applied in the classroom. In addition, the progress checks would verify adherence to ethical conduct of human subject research, integrity of previously reported data, adherence to the proposed study and timeline, and financial compliance. Progress checks would be performed via a self-reported online survey and by quality experts appointed by DGESU via telephone interviews with lead investigators. Quality experts may review and inspect informed consent forms, documentation of the consent process, reported data, regulatory records, source documents to ensure protocol compliance and financial information. They may also request to review the University's internal standard operating procedures (SOPs) for conducting research on human subjects and copies of the research team's credentials and documentation of capacity building to ensure appropriate delegation of specific research tasks. Random progress checks would serve as a means to document the compliance of research processes as stipulated during the call-for-proposals and as proposed by the research alliances and to inform any necessary changes to the guidelines of the program.

34. **Evaluating the process through which HEIs adopt and use improved indicators and quality assurance systems**. The main objective of Component 3 is to support the development and implementation of a system of indicators, internal quality assurance, and continuous improvement framework across HEIs. Recent literature emphasizes the important role of data-driven daily monitoring and long-term planning for decision-makings and, consequently, outcomes in education. For example, McCormack, Propper, and Smith (2014) use the World Management Survey methodology for measuring data-driven monitoring and long-term planning practices, examining UK university departments. They find that these practices are correlated with both teaching and research performance conditional on resources and past performance, showing that this relationship holds for all universities, not just research-intensive ones. In order to evaluate HEIs' adoption and use of tools and guidelines developed throughout the duration of the Project for continuous improvement, the Project provide support to the team of specialists in DGESU for the construction of survey instruments comprising of self-reported surveys as well as telephone interviews with lead investigators to measure these practices and monitor data collection to carry out

this process evaluation.

Activities	Outputs	Outcomes

Table 2: Results chain that indicates relationship between activities, outputs and outcomes.

Component 1: Development and Implementation of Innovative Teaching Practices in Teacher Training Colleges 1.1.1 The design and piloting of the CoP model based on the main challenges encountered by Teacher Training College graduates and a semester long process of defining, implementing and assessing educational innovations in the classroom; 1.1.2 Implementation of the capacity building program for the facilitators of the CoP model; 1.1.3 The preparation of guidelines to monitor and assess the CoP and the innovative pedagogical teaching practices resulting from the CoP implementation of Sub-component.	IRI 1: Number of teachers from Teacher Training Colleges participating in communities of practice. IRI 2: Number of teachers from Teacher Training Colleges that complete their capacity building activities in communities of practice. IRI 3: Number of teachers who regularly use the virtual collaborative portal (i.e. visit the website at least twice a month).	PDO 1: Number of Teacher Training Colleges with at least one Community of Practice that implements and documents an educational innovation.
Component 2: Strengthening Collaborative Applied Research and Innovation Teaching Across Higher Education Institutions 2.1 Research grants for the implementation of research and innovation projects responding to regional and national strategic development challenges and improving teaching and learning processes, presented by alliances. Criteria for selecting the alliances would include: i) relevant local, regional or national development issues in the area/sector of the alliance; ii) innovative teaching methods/strategies in the topics of the alliance; iii) dissemination and transfer of new products and methods to relevant stakeholders.	IRI 4: Number of newly consolidated Academic Research Groups participating in Academic Alliances. IRI 5: Percentage of professors that are integrated in the Academic Alliances not from public state universities. IRI 6: Number of digital educational resources, which are a product of the alliances, which are approved and made available. IRI 7: Number of publications accepted for review in 'indexed' journals resulting from research supported by the Project.	PDO 2: Number of courses that are designed or redesigned to incorporate education innovations as a result of the research of Academic Alliances supported by the Project. PDO 3: Percentage of Academic Alliances that achieve at least 80% their annual goals.

Component 3: Strengthening of Higher Education Indicators and Quality Assurance Models 3.1.1 Diagnostic and comparative study of system of indicators in Higher Education Institutions. 3.1.2 Creation of new models of HEI indicators for quality assurance of HE Indicators. 3.1.3 Contrasting the models of HEI indicators for quality assurance with existing models, taking into consideration new perspectives. 3.1.4 Designing models for quality assurance and continuous improvement of new and existing programs and institutions in Mexico's Higher Education System. 3.1.5 Pilot implementation and evaluation of new models of quality assurance, taking into consideration new perspectives by type of HEIs. 3.2.1 Design and implementation of impact evaluations to assess the overall implementation and impact of the Project.	IRI 8: Sub-system diagnostic reports. IRI 9. HEIs that have piloted a new internal quality assurance model, based on quality indicators. IRI 10: Number of process evaluations completed. IRI 11: Number of impact evaluations completed.	PDO 4: Number of participating Higher Education Institutions that have incorporated the quality indicators developed through the Project in their internal quality assurance model.

ANNEX 2: IMPLEMENTATION ARRANGEMENTS

COUNTRY: Mexico
Mexico Higher Education Project

Project Institutional and Implementation Arrangements

1. **The General Directorate of University Higher Education (DGESU), General Directorate of Higher Education for Education Professionals (DGESPE), and the Office of the Sub-Secretariat of Higher Education within SEP (SES) would implement the Project**. DGESU and DGESPE would jointly coordinate Component 1 through establishment of a Coordination Committee, DGESU would coordinate Components 2 and 3.1, and SES would implement the impact evaluation in component 3.2. Project activities for Sub-component 1.1 and Components 2 and 3.1 would be carried out by State Public Universities or State Public Universities with Solidarity Support and Project activities for Sub-component 1.2 would be carried out by Teacher Training Colleges and in some instances State Finance Secretaries which would carry out procurement activities on behalf of Teacher Training Colleges in their states.

2. **Components will be implemented as follows:** For component 1, a joint Coordination Committee would be formed to organize, monitor and evaluate activities. The Committee would be led by the General Directors of DGESPE and DGESU and be composed of 3 staff members from each office (for a total of 8) who would be responsible for the design, implementation, monitoring and evaluation of CoPs. Component 2 would be managed by DGESU as part of their ongoing management of 3 existing programs PRODEP, PFCE, and ProExoEES. Component 3.1 would be managed by DGESU and Component 3.2 would be managed by the Office of the Sub-Secretariat in coordination with DGESU and DGESPE. In all components except Sub-component 3.2, execution of activities would be carried out by participating HEIs.

3. ***Nacional Financiera*, S.N.C, I.B.D. (*NAFIN*)** would act as the financial agent for the Borrower, managing loan disbursements, overseeing and supporting project implementation.

4. **For components 1.1, 2 and 3.1, the participating Public State University, Public State University with Solidarity Support or Teacher Training College have in place a *Convenio de Colaboración* with SES for execution of activities under that component.** The *Convenio de Colaboración* details eligible expenditures for each activity and relevant financial information requirements. These agreements outline SES's obligation to provide the funds required to implement the activities and the HEI´s obligation to carry out the activity in compliance with the agreed financial management and procurement provisions.

5. **For the implementation of Sub-component 1.2, SES would maintain the pertinent Coordination Agreement with each State participating in the implementation of this Sub-component**, under terms and conditions described in the Operational Manual so as to ensure the flow of funds to Teacher Training Colleges required for implementing the activities. In addition, in cases where the State will implement the activities under Part 1.2 (on behalf of a Teacher Training College), the Borrower, through SEP (through SES), would issue a notice (*Oficio*) to the State seeking compliance with Bank's Anticorruption Guidelines through a commitment letter to be issued by the State in response to the *Oficio* and prior to carrying out any activity.

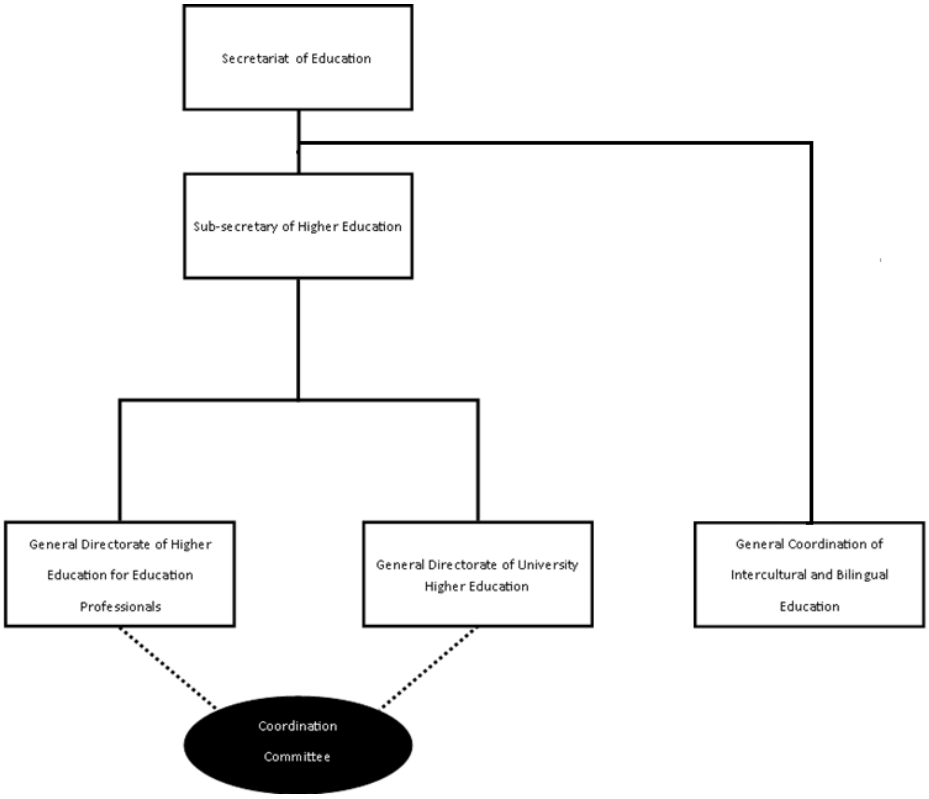
6. **For Component 1.1, Teacher Training Colleges would apply for funds to participate under their PACTEN proposals.**

7. **For Components 1.1, 2, and 3.1, the lead Public State University (Autonomous or with Solidarity Support) would sign a *Carta Compromiso*** with SES and the other HEIs who would participate in the activities. The *Carta Compromiso* would also include language on anti-corruption guidelines and disposal of e-waste in compliance with the EMP.

8. **The Secretariat of Finance and Public Credit (SHCP), would sign a contract (*Contrato de Mandato*) with SEP (through SES including DGESU and DGESPE), and NAFIN** whereby SES would carry out the Project in accordance with the provisions of the Legal Agreement including compliance with the Operational Manual and the Anti-Corruption Guidelines. The flow of funds and flow of information would be carried out, whenever possible, using the country's mechanisms and systems. SES would also ensure that the Institutions participating in the Project commit to carry out the proposals in accordance with the provisions of the Anti-Corruption Guidelines, which are outlined in the Project Operational Manual.

9. **For Component 1.1, Teacher Training Colleges would apply for funds to participate under their PACTEN proposals.**

10. **The chart below shows the organizational structure** pertaining to these institutional and implementation arrangements.



Financial Management

11. **Introduction**. This annex documents the results of the Financial Management (FM) Assessment of the Higher Education Project (the Project), as conducted by Bank staff in accordance with OP/BP 10.00 and Guidelines for Assessment of Financial Management Arrangements in World Bank-Financed Projects.

12. **The residual FM risk, i.e. the inherent risk as mitigated by existing controls, is Substantial.** From the operational perspective the Project poses considerable implementation challenges due to the complex implementation arrangements in place, as well as an entangled flow of funds and information process which involves a number of actors, and various participating public universities as deemed eligible by the Project. Other FM risk factors associated with this project include: (i) the uncertainty regarding the timing of the documentation of the transferred funds to eligible universities, which may delay the overall flow of funds process and thus the Project execution; (ii) oversight of HEI level implementation of the Project; and (iii) effective coordination of data collection among participating institutions.

13. **Flow of funds -** the program's funds are first allocated as part of the SES's budget which is approved annually by the Congress. Each participating HEI and Teacher Training Colleges will receive funds transferred by Tesorería de la Federación (TESOFE). The funds are transferred to eligible HEIs as per the instructions of the DGESU and DGESPE.

14. **Flow of information -** The eligible HEIs report the expenses incurred under the Project to DGESU, which will be in charge of consolidating the financial information after conducting a number of checks and balances procedures.

15. The FM risk is mitigated through various measures divided in 3 main layers of control:

    a. **Country level mitigating measures.** The overall strong country public FM arrangements will be applied to this project, as it will be integrated into the national budget, which operates under a comprehensive and well-established legal framework. The Bank will reimburse eligible expenditures recorded under earmarked budgetary lines and NAFIN will be the project's financial agent providing operational support and oversight.

    b. **Program level mitigating factors.** There are well-defined operating rules governing the existing SEP programs, which include strict eligibility criteria for selecting beneficiaries, clear rules for transferring the money, comprehensive documentation of the program's expenditures, and robust program oversight.

    c. **Entity level mitigating measures.** SEP has a longstanding experience working with the World Bank, and its Unit is well staffed with an adequate segregation of functions. Moreover, it conducts a number of periodic reconciliatory procedures to reasonably ensure the accuracy of financial information.

16. In addition to the measures described above, **the Bank would conduct periodic FM supervisions**, and the Project would annually audited by an acceptable audit firm in accordance with terms of reference acceptable to the Bank.

17. **Description and Assessment of Project FM arrangements:**
    a. **Country issues relevant to the Project.** In general, public financial management in the Mexican federal administration relies on strong budgeting, treasury, accounting and control systems. These FM country systems apply to project transactions because Bank-financed operations form an integral part of the public budget and are executed accordingly. Moreover, specific financial reporting and auditing arrangements for projects financed by multilateral international institutions have been agreed to with the Government.

    b. **Implementing entity.** The Project will be implemented by the Undersecretary of Higher Education under the Ministry of Education through the *Dirección General de Educación Superior Universitaria* (DGESU, by its Spanish Acronym) and *Dirección General de Educación Superior para Profesionales de la Educación* (DGESPE, by its Spanish Acronym). DGESU will be in charge of financial management arrangements. As of this time, 56 universities are eligible to participate. The main instrument for the Project will be the convocatoria process for which existing mechanisms are in place. One of the risks that will need to be mitigated is the coordination of a large network of stakeholders and beneficiaries. The other implementation risk that needs further consideration is the financial management and oversight of University level implementation of the Project. As a mitigating measure, monitoring and evaluation activities are included in the Project design and the World Bank team will provide additional capacity support to SES for these activities.

c. Within the organizational structure of the Undersecretary for Budget and Financial Resources staff in this unit has extensive expertise in managing Bank financed projects; however, additional staff would be required for Bank FM purposes and overall Project fiduciary and management activities.

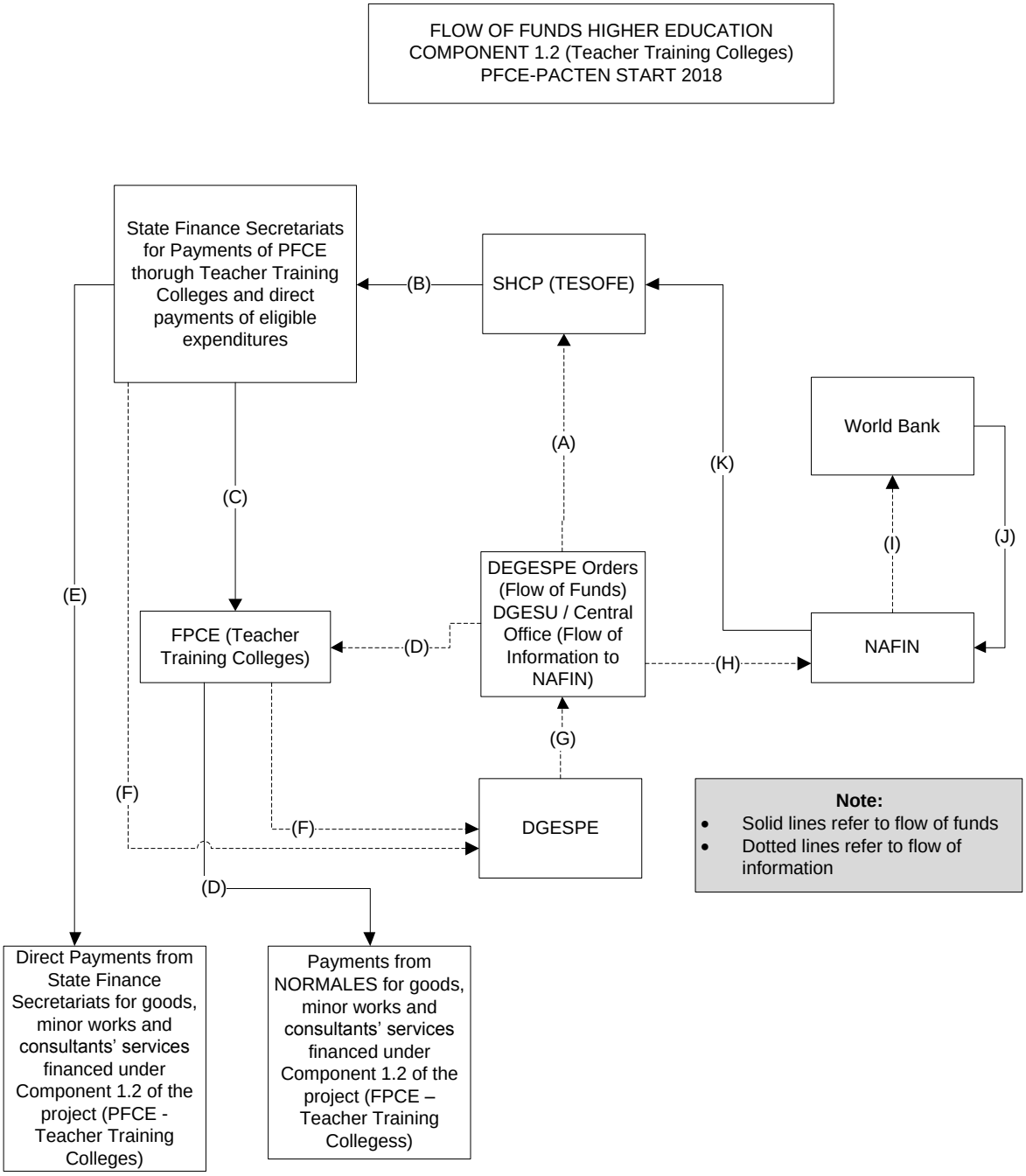
d. **Loan Financial administration**. NAFIN would act as the financial agent of the Borrower for the Loan. In that capacity, NAFIN would manage loan disbursement processes and provide other implementation support and oversight based on its many years of experience with Bank-financed projects.

e. **Internal control and internal auditing.** In addition to the country's budget regulations and procedures, SEP's Undersecretary for Higher Education is subject to the program's operational rules and to the Federal Public Administration Internal Control Standards issued by the Secretariat of Public Function (SFP), which as a whole provide for sound internal control arrangements for the Program. In addition to various financial controls, the program's operational rules include measures aimed to involve university associations in the control of funds, such as the following:

   i. At the end of each university cycle, each participating public university and Teacher Training College or State Secretary of Education must prepare and submit reports detailing the use of financial resources. These HEIs and Teacher Training Colleges (or State Secretary of Education) are responsible for keeping the files with the expenditures' supporting documentation. Final responsibility with the funds transferred to HEIs will stay with the DGESU.

f. The internal auditing function is carried out by SEP's *Órgano Interno de Control* (OIC), which reports to SFP and must follow the Public Audit Standards and Guidelines issued by SFP. The latter also approves the OIC's annual work programs, oversees its operation, and receives its audit reports. Good systems are in place for timely follow-up to internal audit observations and implementation of recommendations.

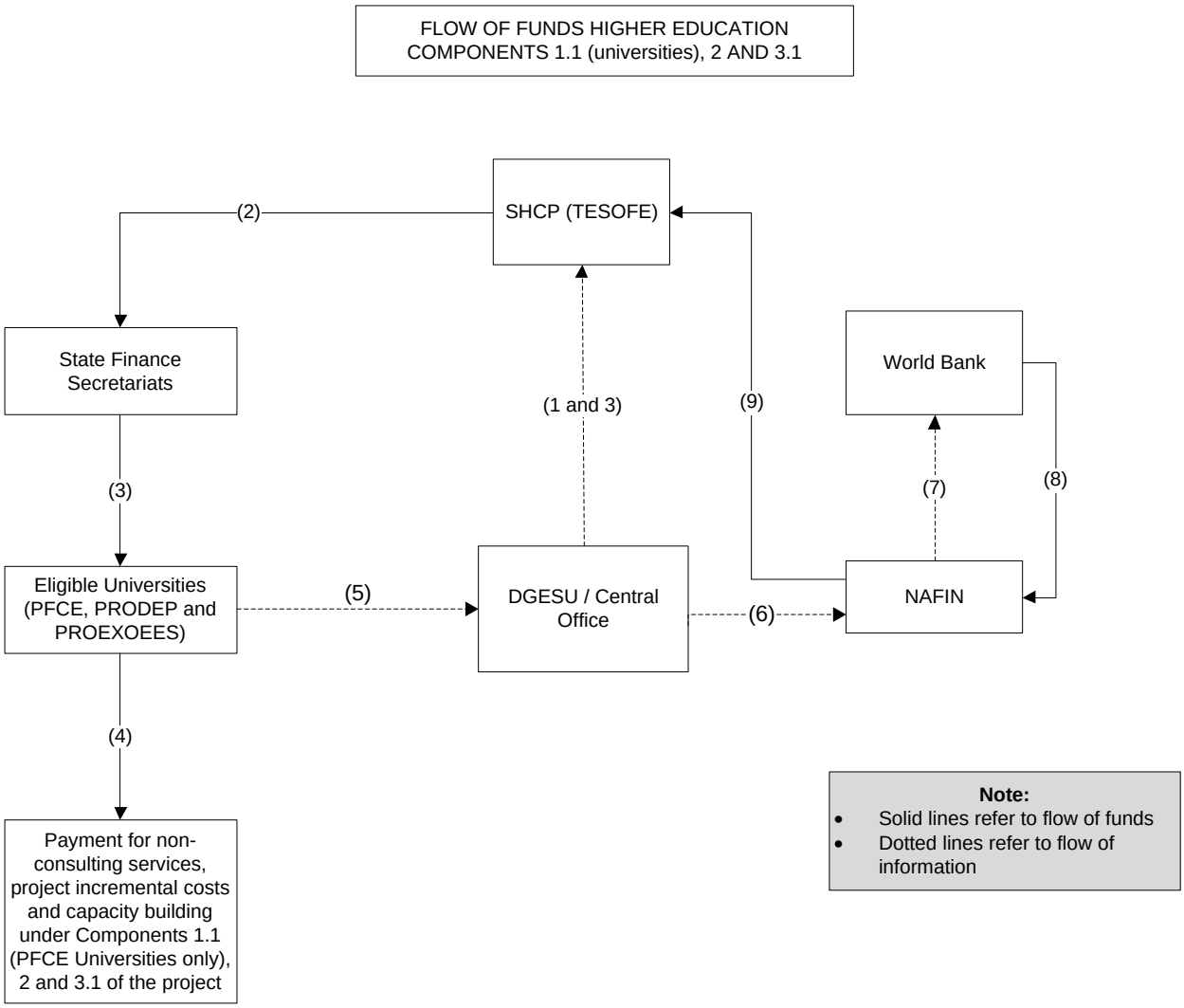
18. **Flow of funds.** The flow of funds arrangements are described in the following charts for Component 1.2 (PACTEN Teacher Training Colleges) and Components 1.1, 2 and 3.1 (FPCE, PRODEP and PROEXOES for Universities), and explained below:



A. DGESPE will request the TESOFE to transfer funds by issuing payment instructions *(Cuentas por Liquidar Certificadas* – CLCs) under the Single Treasury Account (STA).
B. For payments under Component 1.2 of the Project (direct support to PFCE – PACTEN), based on the CLCs' issued by DGESPE, the TESOFE will transfer the funds to the State Finance Secretariats.
C. The State Finance Secretariats will transfer the funds to Teacher Training Colleges for payments of eligible expenditures such as goods and non-consulting services under Component 1.2 of the Project (PFCE – PACTEN), in accordance to the program's operational rules.

D. Teacher Training Colleges in some states will pay directly for the expenditures, under Component 1.2 of the Project.
E. State Finance Secretariats in other states will pay directly for the expenditures under Component 1.2 of the Project (PFCE –PACTEN), in accordance to the program's operational rules, as well.
F. State Finance Secretariats and Teacher Training Colleges will report quarterly the result of payments and progress of the activities reflecting the expenditures incurred during the period and annually, will document all payments to DGESPE, with the support documentation.
G. DGESPE will report result of payments to DGESU which will review and reconcile the information and the results of the CLC transferred initially by TESOFE to the State Finance Secretariats.
H. DGESPE will determine the amount of eligible expenditures, and prepare the financial and disbursement information required by the Bank, and will send it to NAFIN (through DGESU).
I. NAFIN will review and submit the SOEs to the Bank through the client connection system.
J. The Bank will reimburse the eligible expenditures into the Project account designated by NAFIN.
K. NAFIN will reimburse the program funds to TESOFE.

Components 1.1, 2 and 3.1 (DGESU for Universities):



1. DGESU will instruct the TESOFE to transfer funds by issuing payment instructions (*Cuentas por Liquidar Certificadas* – CLCs) under the Single Treasury Account (STA).
2. For payments under Component 1.1 of the Project (direct support to PRODEP - Universities) and Components 2 and 3.1 of the Project, based on the CLCs' issued by DGESU, the TESOFE will transfer the funds to the State Finance Secretariats.
3. The State Finance Secretariats will transfer the funds to Universities (PFCE, PRODEP and PROEXOEES) for payments of eligible expenditures such as non-consulting services, project incremental costs and capacity building under Component 1.1 of the Project (PRODEP – Universities) and components 2 (PFCE, PRODEP and PROEXOEES) and 3.1 (PROEXOEES), in accordance to the programs' operational rules.
4. The eligible universities will incur in the expenditures and make payments approved under the program as approved in the operational rules.
5. Eligible HEIs will present quarterly financial reports to the DGESU reflecting the expenditures incurred by the HEIs during the period and support the expenditures with appropriate documentation at least once a year.

6. DGESU will review and reconcile the information submitted by the HEIs and the results of the CLC transferred initially by TESOFE to the State Finance Secretariats, determine the amount of eligible expenditures, and prepare the financial and disbursement information required by the Bank, and will send it to NAFIN.
7. NAFIN will review and submit the SOEs to the Bank through the client connection system.
8. The Bank will reimburse the eligible expenditures into the Project account designated by NAFIN.
9. NAFIN will reimburse the program funds to TESOFE.

Disbursement method	The following disbursement method will be used under the loan: Reimbursement of eligible expenditures (pre-financed by the government) into a bank account in USD administered by NAFIN.
Advance method	N/A
Supporting documentation	• SOEs[26], Invoices and Receipts when feasible, including Copies of Agreements between SES and the Participating Universities and Teacher Training Colleges, with evidence of transfers. • Customized Statements of Expenditures. • Thresholds will be specified in the disbursement letter and reviewed as part of the project financial audit.
Type of designated account	N/A
Currency of the designated account	N/A
Retroactive expenditures	Eligible payments must meet the following conditions: • That do not exceed 20 percent of the loan amount. • The retroactive expenditures would be subject to the same systems, controls and eligibility filters described above. Those expenditures would also be subject to the regular Project external audit (see below).

19. **The following table specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Loan ("Category"),** the allocation of the amounts of the Loan to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category.

Category	**Amount of the Loan Allocated (expressed in USD)**	**Percentage of Expenditures to be financed (inclusive of Taxes)**

[26] All SOE supporting documentation will be available for review by the external auditors and Bank staff at all times during Project implementation, until at least the later of: (i) one year after the World Bank has received the audited Financial Statements covering the period during which the last withdrawal from the Loan Account was made; and (ii) two years after the Closing Date. The Borrower shall enable the World Bank's representatives to examine such records.

(1) Goods, minor works, non-consulting services, consulting services, Capacity Building, and Project Incremental Costs under Components 1, 2 and 3.1 of the Project; and consulting services under Component 3.2 of the Project	129,675,000	100%
(2) Front-end Fee	325,000	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07 (b) of the General Conditions
(3) Interest Rate Cap or Interest Rate Collar premium	0	Amount due pursuant to Section 2.08(c) of this Agreement
TOTAL AMOUNT	**130,000,000**	

20. **Financial reporting.** SES would use the S*istema Integral de Administración Financiera Federal (SIAFF)* and *Sistema de Contabilidad y Presupuesto (SICOP)* for preparing the Project's accounting records. The system has adequate capabilities to recognize different levels of accounts and issue financial reports. SES would prepare bi-annual interim financial unaudited reports and project's annual financial statements.

Report	Due date
Semester unaudited Project IFRs	Within 45 days after the end of each calendar semester.
Annual audit report on Project financial statements and eligibility of expenditures	Within six months after the end of each calendar year of loan disbursements (or other period agreed with the Bank).

21. **External audit.** Annual audits on Project financial statements and eligibility of expenditures would be performed in accordance with Bank policy, as reflected in the audit terms of reference and memorandum of understanding agreed between the Bank and SFP. An independent audit firm selected by SFP and acceptable to the Bank would conduct the project audits. The Terms of Reference for the annual financial audit would require independent auditors to report on the actual use of funds, received by eligible schools, ensuring that loan proceeds have been used for the purposes intended. The OIC is eligible to audit this Project and may be designated by the SFP as well. Participating eligible universities are autonomous; therefore, subsidiary agreements signed between the project and participating universities will need to address the availability of university records and support documentation for transactions financed under the project, for monitoring and external audit purposes. SFP designated audit scope will have unrestricted access to all project transactions.

22. **The Federal Supreme Audit Institution (ASF) regularly executes a number of performance, financial and compliance audits of the Project**. The results from these audits are made public in the annual audit reports on the Federal Public Accounts. These external checks provide additional assurances about the

project's operation and financial management.[27]

23. **Written Procedures.** Project operation is governed primarily by its annual Operational Rules, to which a number of procedures and guidelines are linked. Given available documentation, only those FM procedures that are specific to the Bank were compiled in a Project FM Manual that has been provided to the Bank.

24. **Risk assessment.** On the basis of the Bank's Project FM assessment, the overall FM residual risk is considered substantial, as explained in the following table:

[27] ASF audit reports on the Federal Public Accounts are issued 15 months after the end of the calendar year. Hence, while they remain an important source of information for fiduciary purposes, they cannot be used by themselves to meet the Bank's project financial audit requirements.

Risk type[28]	Risk Rating	FM Risk Table Comments / Risk mitigating measures incorporated into Project design	Residual Risk Rating
Inherent risk	**S**		**M**
Country level	M		M
Entity	M	The Project will be implemented by the SEP. SEP has considerable experience in Bank-financed projects from both technical and FM sides. SEP also demonstrated to have a strong institutional capacity.	M
Project	S	The Project is highly complex from the operational standpoint. The flow of funds involves various actors, and participating universities. The operational capacity of some of the participating universities may be low. However, there seems to be a strong monitoring and internal control in place to follow up on each transfer to participating universities.	S
Control risk			
Budgeting	M	The Project's budget will be embedded in the standard budgetary procedures of SEP, including formulation, monitoring and control.	M
Accounting	M	All Project transactions will be recorded in the accounting system, which will include records and separate accounts for the proposed operation.	M
Internal Control	M	The entity is subject to its own operational rules, and different policies established in its operating manuals. The internal audit function is carried out by the SEP's OIC, and the program is within the scope of audit of the Supreme Audit Institution.	M
Funds Flow	S	A number of operational controls have been established in the operating rules of the program, such as the involvement of the associations at various university level of the program's operation, including the planning in the use of the resources, and the authorization of payments.	S
Financial Reporting	M	SEP will submit, through NAFIN, project calendar semester unaudited Interim Financial Reports (IFRs) and annual audited financial statements. The Undersecretary for Higher Education has established various mechanisms and controls to ensure the accuracy of financial information.	M
Auditing	S	An independent audit firm selected by SFP and acceptable to the Bank will conduct the annual audit on Project financial statements and expenditure eligibility. The SFP has legal rights to audit universities since the funds are federal and subject to external debt signed at the federal level of government. Universities will be public universities.	S
Overall risk	**S**		**S**
Non-standard conditions			
Bank FM supervision		Two full FM supervision mission per year, which will look into the operation of the control systems and arrangements described in this annex, including but not limited to the beneficiary payments system, the reconciliation process, and the eligibility filters. Desk reviews of IFRs and audit reports.	
Residual risk			**S**

[28] The **FM inherent risk** is that which arises from the environment in which the project is situated. The **FM control risk** is the risk that the project's FM system is inadequate to ensure project funds are used economically and efficiently and for the purpose intended. The **overall FM risk** is the combination of the inherent and control risks as mitigated by the client control frameworks. The **residual FM risk** is the overall FM risk as mitigated by the Bank supervision effort.

Procurement

25. **Procurement would be conducted according to the World Bank's Procurement Regulations for Borrowers under IPF,** dated July 1 July 2016, for the supply of goods, works, non-consulting services, and consulting services.

26. **HEIs participating in the Project would undertake the procurement activities.** The SES through the General Directorate of University Higher Education (*Dirección General de Educación Superior Universitaria*, DGESU) and the General Directorate of Higher Education for Education Professionals (*Dirección General de Educación Superior para Profesionales de la Educación*, DGESPE) would be responsible for identifying the HEI's participating in the Project. The main Project instrument for the selection of the participating HEI's will be the *Convocatorias* for which the necessary mechanisms already exist. The DGESU and DGESPE will provide the implementation support and monitoring the technical and fiduciary aspects.

27. **The World Bank's Standard Procurement Documents will govern the procurement of World Bank-financed Open International Competitive Procurement**. For procurement involving National Competitive Procurement, the harmonized procedures and documents agreed with the SFP and Inter-American Development Bank will be used. Other simplified documents may be agreed with the Bank.

28. A **procurement capacity** assessment was carried out to the SES (DGESU – DGESPE) in November 2016, and the analysis concluded the following:
    1. The SEP has previous experience in dealing with projects funded by the Bank, however, for the implementation of this project, complete and clear institutional arrangements are required to ensure proper implementation.
    2. There are well-defined operating rules governing the programs (PFCE and PRODEP), which include eligibility criteria for selecting beneficiaries and clear eligible expenditures for program execution.
    3. DGESU and DGESPE would jointly coordinate Component 1 through a management committee; DGESU would coordinate Components 2 and 3.1.
    4. The assessment reviewed the organizational structure, the staff responsible for procurement, the Project Operational Manual and the systems used for supervising and controlling. The analysis concluded that the SES through DGESU is an entity that operates under a clearly defined legal framework with clear internal procedures and has the expertise to manage and supervise the implementation of the Call to Proposal Process. However, for this project the DGESU and DGESPE will be responsible for monitoring the procurement activities conducted by the participating HEIs, so they need to strengthen the monitoring mechanisms, since the monitoring they currently carry out is more at a financial level than in procurement. No staff with experience in procurement with World Bank's procedures were identified. So DGESU and DGESPE should include the designation of a responsible individual for monitoring procurement, who supports and monitors procurement activities by beneficiaries with TOR acceptable to the Bank, which should be duly established in the Project Operational Manual.

29. **The overall Project risk for procurement is Substantial.** Taking into account the implementation arrangements complexity for the Project and considering that all procurement activities will be carried out by the grants' beneficiaries, who need to consider the specific procedures for procurement activities and the programs' complexity for implementation, given the nature of the institutional partnerships conformation to achieve the objectives of the programs.

30. **Procurement Arrangements:** A Project Procurement Strategy for Development (PPSD) was carried out and identified the appropriate approach in accordance with up to three procurement activities at central level; and at activity level, the established eligible expenses and the maximum amounts authorized for each, as follows:

- **Consulting services** will be procured following Quality and Cost Based Selection, Fixed Budget Based Selection, Least Cost Bases Selection, Quality Based Selection, Consultant's Qualification Based Selection and Direct Selection. Under International Market Approach, the World Bank's Request for Proposals Standard document will apply. When approaching the national market, the harmonized Request for Proposals agreed by the World Bank with the *Secretaría de la Función Pública* and the Inter-American Development Bank (IADB) will be used.

- **Procurement under *Convocatorias***: Procurement of goods, works, non-consulting services and consulting services will be carried out in accordance with the procedures set forth in the Operational Manual. Under the program, beneficiaries will decide what investments to make in accordance with their business plans and competitively selected proposals. The grant application will contain a business plan including a simplified procurement plan with a list of the goods and services to be procured and their estimated cost. Grants under the programs shall follow the procedures established in the Operational Manual. Achieving the objectives of the programs requires supporting both procurable (goods, services, and consultants' services) and non-procurable items (such as scholarships and stipends). In each case, the Project Operational Manual will specify the appropriate documentation necessary for the beneficiaries to keep and to submit as part of the regular reporting process. The procurement of Goods and Non-consulting services will be following Request for Bids, Request for Quotations and Direct Selection methods. Under open or limited national competitive procurement approach the harmonized documents agreed by the World Bank with the SFP and the IADB will be used. For the Request for Quotations: The guidelines of the harmonized procedures will be followed and a simplified document will be agreed with the Bank. Procurement of works and consulting services are not expected. No eligible expenditures were defined for these categories.

31. **Risk Mitigation Plan**. The following table summarizes the mitigation actions proposed for the procurement-related risks identified above.

Table 3: Procurement Improvement Action Plan

Risks - Areas for improvement	Mitigation actions	Responsible	When
Established by the borrower a PPSD and a project procurement plan for the first 18 months of execution.	The PPSD is in preparation and as a result of this, a programmatic Procurement Plan, which should include at least the procurement category, the maximum authorized amount for each eligible expenditure and the procurement options or methods, as well as the type of review.	SES DGESU DGESPE	Complete
Management project.	The operational manual is in preparation. It must contain: A clear definition of the processes, roles, and responsibilities of the SEP, SES, DGESU, and DGESPE. The Procurement chapter would reflect the procurement arrangements.	SES DGESU DGESPE	Complete
Lack of staff with sufficient experience monitoring procurement processes with the world bank's guidelines.	The DGESU will be responsible for monitoring the procurement activities conducted by the HEIs, through a designation of a responsible individual for procurement, who supports and monitors procurement activities by HEIs with TOR acceptable to the Bank, which should be duly established in the Project Operational Manual.	SES DGESU DGESPE	Effectiveness
Most of the procurement activities would be implemented by participating HEIs.	The agreements signed between SES and each of the HEI recipients under the competitive fund must include a statement in which the HEIs agree, that the procurement of goods, non-consulting services and consulting services would be carried out in accordance with the procedures set forth in the Project Operational Manual.	SES DGESU DGESPE	During project implementation
Need to establish a regulatory and supervision mechanism for SES, DGESU and DGESPE to guide grant beneficiaries in procurement procedures.	The procurement section of the operational manual would clearly define the roles, responsibilities, rules and reporting requirements on procurement, as- well as the monitoring and control that will be carried out to the procurement by the HEIs.	SES DGESU DGESPE	Complete

Environmental and Social (including safeguards)

32. **The risks and potential impacts on the environment are considered low and only related with the procurement of informatics and communication equipment needed for the implementation of component 2.** Attention would be directed toward replacement or obsolescence of equipment that would generate electronic waste and require special handling in accordance with the national law. The adaptation of physical infrastructure involved in participating HEIs might also have some impact on the

environment (adaptation refers mainly to ICT infrastructure for connectivity and access to computers – refitting rooms to allow air conditioning, cabling, projectors, etc.).

33. **A comprehensive analysis of national regulations for e-waste** was carried out by the Environment and Natural Resources office (SEMARNAT) in 2010 as part of the General Law for the Prevention and Management of Waste. As a result, a national policy for e-waste management was developed at this time (NOM- 161 SEMARNAT-2011).

34. **Due to these circumstances, operational policy 4.01 Environmental Assessment is triggered**, with the focus on e-waste management. In accordance with the policy, an Environmental Management Plan (EMP) has been developed and disclosed focused on the proper handling of electronic waste and other waste generated during the infrastructure adaptation, which includes, conservation, reuse, recycling and adequate disposal of e-waste. The EMP would incorporate mechanisms for monitoring and recording, consultation with stakeholders and the grievance mechanism, which are essential for compliance with the OP.

35. **No other environmental operational polices would be triggered.**

36. **The risk and the social impacts for this project are low**. Physical Cultural Resources OP/BP 4.11 and Involuntary Resettlement OP/BP 4.12 do not apply to this Project. However, given the political context and scope of the Project, OP/BP 4.10 on Indigenous Peoples is triggered.

37. **The main objective of the social safeguard will be to develop a clear institutional communication strategy** in order to clearly and effectively promote the objectives and scope of the Project to all potential participants. It would be important for the communication strategy to take into consideration the following topics: the number of beneficiaries, the eligibility of beneficiaries, the transparency in resource management, and institutional experience. There should be a particular focus on promoting the future positive impacts of the Project.

38. **For the policy on Indigenous Peoples OP/BP 4.10, DGESU in coordination with the General Coordination of Intercultural and Bilingual Education (CGEIB), has developed and disclosed an Indigenous Peoples Planning Framework (IPPF)**. The focus is to raise awareness and participation in the Project among the Intercultural Universities (IU) in the country, which provide relevant education to students from both indigenous origin and other social sectors – focused on promoting the development of their peoples and regions. Moreover, the IPPF will focus on establishing indicators in order to report statistics and the positive impacts on this population and other social sectors.

Results Monitoring and Evaluation

39. **Progress towards achieving the PDO and intermediate indicators related to component 1 would be carried out by the Coordinating Committee of 8 representatives from DGESPE and DGESU**, where in both would be responsible for collecting and compiling the necessary for progress monitoring. Progress towards achieving the PDO and intermediate indicators related to components 2 and 3 would be carried out by DGESU. For component 2, DGESU would use the guidelines and monitoring instruments of the three funding programs - PRODEP, PFCE and ProExoEES – for compiling and measuring progress towards indicators. For component 3, DGESU would carry out short surveys to in each meeting to collect any

necessary information to monitor intermediate indicators as well as collect information from HEIs during all meetings to monitor progress of institutional usage of the system of indicators and internal quality assurance. For all components, the responsible parties would send biannual progress reports to the Bank, detailing progress towards targets established in the Result Framework.

40. **In addition, subcomponent 3.2 would support the design and implementation of an impact evaluation and two process evaluations.** To evaluate the impact of communities of practice in Component 1, the Project would provide support to the DGESPE-DGESU Committee to design the instruments for the impact evaluation and the random selection of 160 Teacher Training Colleges and teachers that would participate in the treatment and control groups. Data collection for Impact Evaluation will be centrally procured. For Component 2, the Project would provide support to the team of specialists in DGESU for the construction of instruments to carry out random progress checks across research projects and carry out a process evaluation based on the data compiled from the annual and bi-annual monitoring reports as well as the random progress checks. For Component 3, the Project would also provide support to the team of specialists in DGESU for the construction of survey instruments comprising of self-reported surveys as well as telephone interviews with lead investigators to be use to track indicators and utilize the compiled data to carry out a process evaluation.

ANNEX 3: IMPLEMENTATION SUPPORT PLAN

COUNTRY: Mexico
Mexico Higher Education Project

Strategy and Approach for Implementation Support

1. The strategy for Implementation Support has been developed based on the specificities of the Project and its risk profile. This Implementation Support Plan (ISP) seeks to focus on the inputs and actions required to facilitate improved risk management and results, as well as increased institutional development, while ensuring compliance with the Loan Agreement to meet the Bank's fiduciary obligations. The ISP would be revised as necessary to ensure that it continues to meet the implementation support needs of the Project.

2. The ISP places strong emphasis on communication and close working relationships between the counterparts and the Bank team.

Implementation Support Plan and Resource Requirements

3. The Bank would carry out at least two implementation support missions per year, which would include guidance on technical, fiduciary, social, and environmental issues. The missions would also ensure that appropriate capacity building in the respective fields of expertise is provided to the implementation counterparts. The Bank would maintain regular contact with the counterparts to monitor the Project's progress and to identify implementation issues and resolve them in a timely manner.

4. The Bank would conduct periodic Financial Management (FM) supervision missions, and the Project would be audited annually by an acceptable audit firm in accordance with terms of reference acceptable to the Bank. Procurement supervision would be carried out semi-annually and would include annual independent reviews.

5. Implementation support would feature the promotion of continued dialogue and technical discussions between SEP and prospective actors involved in higher education in Mexico.

Table 4: Main Focus of Support to Implementation

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First 12 months	Project start-up	Team leader Co-team leader Education economist Education Analyst	8 staff weeks 14 staff weeks 7 staff weeks	N/A

			12 staff weeks	
	Supervision and capacity building in fiduciary matters, execution of Procurement Plan, hiring of auditors	FM specialist Procurement Spec.	3 staff weeks 3 staff weeks	N/A
	Execution of safeguards plans	Social Specialist Environmental Spec.	3 staff weeks 3 staff weeks	N/A
13-30 months	Formal implementation support and field visits	Task Team Leaders Education Economist Education Analyst FM specialist Procurement Specialist	12 staff weeks 12 staff weeks 12 staff weeks 8 staff weeks 8 staff weeks	N/A
	Monitoring to ensure compliance with Safeguards Policies and instruments	Social Specialist Environmental Spec.	6 staff weeks 6 staff weeks	N/A
31-60 months	Formal implementation support and field visits	Task Team Leaders Education Economist Education Analyst FM specialist Procurement Specialist	12 staff weeks 12 staff weeks 12 staff weeks 8 staff weeks 8 staff weeks	N/A
	Monitoring to ensure compliance with Safeguards Policies and instruments	Social Specialist Environmental Spec.	6 staff weeks 6 staff weeks	N/A

Table 5: Bank Staff Skills Mix Required for the Project's Implementation Support

Skills Needed	**Number of Staff Weeks**	**Number of Trips**
Team leaders	30	Twice a year
Education Economist	30	Twice a year
Education Analyst	30	0
Financial Management Specialist	20	Twice a year
Procurement specialist	20	TBD

Skills Needed	Number of Staff Weeks	Number of Trips
Social Safeguards Specialist	15	TBD
Environmental specialist	15	TBD

ANNEX 4: ECONOMIC ANALYSIS

1. The economic and financial analysis addresses three key questions: (i) what is the proposed Project's development impact in terms of expected benefits and costs? (ii) is public sector provision or financing the appropriate vehicle? (iii) what is the World Bank's value added?

Part I: What is the Project's Development Impact?

2. The Project considers its direct impact to be capacity improvement of participating public HEIs and its indirect and ultimate impact to be improvements in education and labor market outcomes. The Project has three components, two of which are potentially quantifiable if there is sufficient evidence of the effects of similar interventions in comparable contexts. This criterion is fulfilled by component 1 and component 2 and this analysis focuses on the ultimate impact on outcomes.

Component 1: Development and Implementation of Innovative Teaching Practices in Teacher Training Colleges

3. Component 1 has an expected direct impact on the immediate beneficiaries, students (henceforth, *normalistas*) at Teacher Training Colleges, and a potentially much larger indirect effect on the future students of these trained teachers, the indirect beneficiaries. The Project's goal is to strengthen the performance of teachers at Teacher Training Colleges and, ultimately, the skills of future teachers that are specific to institutions of basic education. This improves *normalistas'* labor market performance in the education sector. A potentially much larger indirect multiplier effect arises from improved teachers' skills shaping their own students' knowledge. This analysis quantifies both of these effects.

4. In the status quo, many graduates from teacher training colleges seem inadequately prepared. For the 2014-2015 school year, 44.50% of graduates from teacher training colleges entering the job market obtained "suitable" results and earned a basic education school contract (K-9th grade) [Source: *Servicio Profesional Docente*]. These graduates are having to compete for teacher jobs with graduates from other universities. As a result, many school-trained school teachers are being employed in occupations outside of teaching, and many teaching jobs are being filled by other professionals. Only 64 % of trained school teachers are actually being employed in the profession they studied, and 36 % in other professions.[29] On the other hand, 41 % of all teaching positions in K-9 basic education are being occupied by graduates with other degrees [Source: ENOE].

[29] These figures do not include trained school teachers who are not participating in the labor force.

5. For an analysis of the direct effect, we assume conservatively that the improved teacher training only impacts *normalistas'* specific skills in the teaching occupation, and that these skills are not transferrable to other occupations. The Project's beneficiaries would then become more competitive in national teacher selection tenders vis-à-vis graduates of other programs, but not in other occupations. The direct effect then arises due to better teaching employment opportunities for *normalistas* as a result of improved skills and knowledge. The direct effect can then be quantified as the income gain for *normalistas* who *additionally* win teaching positions through the mechanisms of improved teacher training which leads to stronger student competitiveness for teaching positions, compared to the income they could earn in occupations outside teaching. We assume further that skills of other graduates are remunerated equally in teaching and in other occupations in a competitive labor market, so that these graduates do neither lose nor gain when *normalistas* win an increasing share of teaching positions.

6. The indirect effect can be quantified as the difference in wages that arises through the mechanism of improved teacher training which leads to higher teacher knowledge and thus causing higher student skills. Students may not be exposed to improved teaching through the entire length of their enrolment. Rather, exposure increases gradually over time, as newly trained teachers fill vacant teaching positions.

Component 2: Strengthening collaborative applied research and innovative teaching across public HEIs: impact on student outcomes through the development of digital educational innovations.

7. Component 2 focus on improving the learning process through the development of digital education innovations through research aligned with local development needs. The literature is somewhat silent on the link between research and teaching. However, in this analysis we take into consideration the impact of hybrid courses as a proxy for courses that include some aspect of digital learning in its curriculum as this would be one of the key outputs of the academic alliances.

8. In terms of the evidence on the effectiveness of hybrid courses, Ortiz and Cristia (2014) review 12 program evaluations of computer-assisted learning (CAL) in developing countries. All of these interventions targeted primary-age students (mainly grades 3-5), and looked at effects on either math or language skills (depending on what the Project targeted). The meta-analysis reveals that the success of Project depends on the modality. Programs with guided use achieved on average a statistically significant impact of 0.17 standard deviations on test scores, while programs without guided use had no significant impact. Results for effects of ICT and CAL in developed countries are more sobering, as a recent review by Bulman and Fairlie (2016) concludes; although there are some exceptions for CAL. The authors suggest that possibly the quality of education or other activities being substituted for is lower.

9. Barrow et al (2009) is one of the studies of CAL in the US with positive effects. They additionally study the mechanisms behind this. They find that the effects of a CAL program in the US of a specially designed, popular instructional computer program for improving pre-algebra and algebra skills in middle and high school, appears larger for students in classes with poor attendance records. The authors suggest that this could be both a result of time-use – i.e. students can work with the program at their own pace, and in in their own schedule – and a result of the level of learning, which in effect can be individualized by computers. These results point at the potential of bringing HE to higher population, through increasing

initial enrolment or encouraging retention in education. Both of the mechanisms identified by Barrow et al (2009) could help increase access in particular for disadvantaged and underrepresented populations who might HE with lower previous knowledge, and who are more prone to having to juggle multiple obligations alongside their studies, such as care for family members or part-time work.

10. Another argument (Hoxby 2014; Acemoglu Laibson and List 2014) highlights the potential of ICT, in particular the internet, to "democratize" HE by bringing teaching at the frontier to a much wider audience at low cost. Through recorded lectures, openly available course notes, or in a formalized way via a Massive Open On Line Course (MOOC), masses of students would be able to be exposed to teaching by 'superstar' lecturers formerly available only to a tiny minority at elite institutions. These arguments further point of the potential role of existing institutions of face-to-face institutions to complement such material with personal instruction, revision, etc., effectively creating a hybrid course with outsourcing of some components.

11. The existing evidence for the effects of hybrid education in a real-world context comes from mid- and lower-tier universities in the US, and generally finds little difference in outcomes between hybrid and traditional versions of the same course. Joyce et al (2015) in a randomized experiment with Economics 101 students at City University of New York (CUNY) find that the hybrid version of the semester-long course (taught by the same in-house instructors as the traditional course) leads to slightly lower exam results, with no differences in dropout. In a similar setting at several campuses of CUNY, State University of New York (SUNY) and the University of Maryland, Bowen et al (2013) find that learnings outcomes are essentially the same for an introductory statistics course, and that hybrid achieved a 5 percentage point higher course completion rate (compared to 82 % for the traditional format), as well as a 20 % time savings for students who essentially achieve the same results. Figlio, Rush and Lin (2010) find modest evidence that traditional instruction dominates online-only instruction at an introductory microeconomics course at the University of Florida. They report stronger negative effects for particular subgroups, including Hispanic, male, and low-achieving students. Even stronger negative results are reported by Bettinger et al (2014) for online courses a DeVry university, a 'large for profit "chain"' of online education (Deming et al, 2015) catering mainly to working students from non-traditional backgrounds on 100 campuses all over the US. Using an instrumental variables approach for data on 280,000 students, they find negative effects on achievement (-0.15 standard deviations), completion (-2.5 percentage points), and a 3-7 percentage points reduction in student retention one year later. An important limitation for comparison of Figlio et al (2010) and Bettinger et al (2014) though is that courses at DeVry and University of Florida were either completely face-to-face or online, as opposed to hybrid courses that have both elements in one course. Alpert, Couch and Harmon (2016) examine how important this distinction is. They use a random experiment to evaluate instruction in an introductory economics course by traditional face-to-face classroom instruction, blended face-to-face and online instruction, and exclusive online instruction. They find evidence of negative effects on learning outcomes from online instruction relative to traditional instruction, but no evidence of negative effects from blended instruction relative to traditional instruction. Dropout was slightly higher in hybrid (36 %) than in face-to-face (30 %), but lower than in online-only (46 %). Finally, in an early study Riffell and Sibley (2005) find positive effects on performance for a hybrid introductory biology course. The course was specifically designed for the study to be of very high quality, limiting somewhat the external validity of their findings.

12. Taken together, these results suggest that learnings outcomes of well-designed hybrid courses are similar to traditional courses. These courses have the potential for students to manage their time more flexibly and effectively, which might be one of the reasons for higher retention rates. At the same time the studies highlight that under certain circumstances, hybrid courses can be less effective than traditional courses, especially for students with overall lower achievement, or those from disadvantaged or non-traditional backgrounds who may benefit from the stronger attachment and commitment to learning that traditional face-to-face courses provide. Nonetheless, the digital innovations produced in Component 2 include several forms of digital technology such as hybrid courses or digital tools to be used in the classroom and as such these would be tailored to the needs of each course. We thus assume that there would be a positive impact of the use of these educational innovations on student outcomes.

Cost-Benefit Analysis

13. Based on the effectiveness hypothesis and Project's expected impact, the Net Present Value is expected to be approximately MXN 4.9 billion or US$240 million in the current exchange rate of MXN 20.73 per dollar with an Internal Rate of Return of 13% (discounted at a rate of 5%). Table 4 presents a summary until 2032.

Table 6: Cost Benefit Analysis

	Benefits				Costs	
Year	**Component 1: Direct effects on Teachers**	**Component 1: Indirect effects on students**	**Component 2**	**TOTAL BENEFITS**	**TOTAL COSTS**	**Net Present Value**
2016-17	0	0	0	0	20,730,000	-20,730,000
2017-18	0	0	2,642,351	2,642,351	394,857,143	-392,214,792
2018-19	3,672,269	0	10,402,079	14,074,348	940,136,054	-926,061,706
2019-20	10,273,320	1,197,534	25,616,304	37,087,159	895,367,671	-858,280,512
2020-21	19,169,533	5,716,112	50,298,365	75,184,010	306,983,201	-231,799,191
2021-22	29,817,094	16,363,821	80,611,662	126,792,578		126,792,578
2022-23	39,367,789	37,039,406	113,286,769	189,693,964		189,693,964
2023-24	47,903,759	71,333,086	145,513,137	264,749,982		264,749,982
2024-25	55,499,078	122,513,595	174,749,964	352,762,637		352,762,637
2025-26	62,222,934	193,517,555	201,084,617	456,825,105		456,825,105
2026-27	68,142,641	287,485,724	224,666,461	580,294,826		580,294,826
2027-28	73,320,609	407,640,827	245,702,610	726,664,047		726,664,047
2028-29	77,815,343	550,367,542	264,325,800	892,508,685		892,508,685
2029-30	81,681,066	713,146,059	280,688,000	1,075,515,125		1,075,515,125
2030-31	84,968,267	893,414,602	294,994,181	1,273,377,050		1,273,377,050
2031-32	87,725,005	1,085,130,118	307,398,954	1,480,254,077		1,480,254,077
Total						4,990,351,873
Internal Rate of Return						13%

Costs, Benefits, and Net Present Value

14. Given the difficulties in forecasting how increased research activities would be converted into technology transfers, this cost-benefit analysis conservatively does not include the impact of collaborative research on regional development.

Part II: Is Public Sector Provision or Financing the Appropriate Vehicle?

15. The past few years Mexico has undergone legislative changes in order to enact educational reforms, thus raising the standards and aiming at improving the quality of education. These non-investment actions must be complemented with public sector investments aimed at implementing new or improving the provision of existing programs to improve human capital across the system. This Project focuses on the provision of incentives to strengthen research collaborations, innovative teaching and promote a culture of continuous institutional improvement in order to bring systemic change, raising the level of human capital, and achieving the goals of the educational reform.

16. Mexico has brought to the forefront the issues about the quality of instruction at teacher training colleges and reasons for the persistent poor learning achievement in the country (UNESCO-OREALC, 2014). During the 2014-2015 school year, 33% of university graduates and 44.5% of graduates from teacher training colleges entered the job market achieving "suitable" results and earned a basic education school contract (K-9th grade); for indigenous school contracts, performance was lower. The activities of Component 1 aim at strengthening teaching quality in Teacher Training Colleges to begin tackling this issue.

17. Mexico has also increased its research and development expenditure by 26.3% from 2011 to 2014. Though that may be the case, innovative Research and Development activities for local development are still on a low level. Over the last 25 years, patents held by foreigners have made up 97% of all patents, and this trend has been stable even in recent years. At the same time, there has been significant funding given to researchers at HEIs in Mexico, however these efforts have not yet been reflected significantly in both innovative teaching and learning practices and applied research to solving regional and national issues. The activities of Component 2 aim at fostering collaborative research across HEIs that are aligned with local development needs to increase the stock of relevant knowledge, and thus contributing to local growth through technology spillovers and a better prepared supply of workers graduating from these universities.

18. Mexico has also made significant efforts in collecting and disseminating data as well as evaluating their programs and institutions in HE. However, these efforts have been done in a disarticulated manner, thus not creating a culture of continuous improvement. The activities of Component 3 aim at strengthening institutions from within, providing relevant information for administrators (and society at large) to make informed decisions in HE.

Part III: What is the World Bank's added value?

19. The World Bank would contribute to Mexico's long-term development trend by supporting innovative teaching and learning practices and applied research in HEIs. The strengthening of the capabilities of HEIs through collaborations would support the recent Educational Reform in Mexico to increase the quality of

education and equity goals. The World Bank's involvement would come in the form of sharing best international practices with government agencies, teachers, school directors, parents, advisors, supervisors, and the community in general. Finally, the design of the program would solidify the quality assurance the federal government aims to improve. The World Bank would bring its expertise on assessments, research and innovation design, implementation, follow-up, interpretation of results, and feedback to policy design.

ANNEX 5: Bibliography

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