



**PISA FOR DEVELOPMENT
CAPACITY NEEDS ANALYSIS:
GUATEMALA**



PISA
FOR DEVELOPMENT



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This report has been prepared by Leonor Cariola Huerta on behalf of the OECD and the Ministry of Education of Guatemala as part of the PISA for Development project. PISA for Development is an initiative of the OECD and development partners that aims to identify how PISA can best support evidence-based policy making in emerging and developing economies – and contribute to the UN-led definition of global learning goals for the post-2015 agenda. In addition the project will help to build country capacity in assessment, analysis and use of results for monitoring and improvement among participating countries.

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PISA FOR DEVELOPMENT

CAPACITY NEEDS ANALYSIS: GUATEMALA

1. Introduction and Background

PISA for Development is an initiative of the OECD and development partners that aims to identify how PISA can best support evidence-based policy making in emerging and developing economies – and contribute to the UN-led definition of global learning goals for the post-2015 agenda. In addition the project will help to build country capacity in assessment, analysis and use of results for monitoring and improvement among participating countries.

The initial phase of the project in each participating country is the completion of a Capacity Needs Analysis (CNA). The benchmark for the CNA is the necessary capacity required in the context of the PISA for Development project, which is defined as:

- The ability of the individuals and institutions responsible for the project in each country to perform the necessary functions (as set out in the roles and responsibilities for NC and NPM), solve the likely problems that will arise during implementation and set and achieve project objectives in a sustainable manner.

Countries may desire future capacities for student assessment that go beyond this minimum requirement. Identification of additional needs should reflect the participating countries' aspiration, while respecting the feasibility of realising the additional needs within the context of PISA for Development's three year implementation cycle and required activities.

This document describes the Capacity Needs Analysis (CNA) framework for PISA for Development as well as the use of this framework in the Guatemala context. The framework itself is derived from project requirements of the main OECD PISA implementation, which are outlined in the PISA National Project Manager (NPM) Manual (OECD, 2012a) and the NPM Roles and Responsibilities (OECD, 2012b), and the stated programme outputs of PISA for Development (OECD, 2013). The framework is structured according to three dimensions: 1) Enabling context, 2) Organisation and 3) Individual. The framework is designed to assess the capacity of participating countries to achieve the five programme outputs of PISA for Development, which are:

- enhanced contextual questionnaires and data-collection instruments;
- enhanced descriptive power of cognitive assessments in reading, mathematics and science, at appropriate skill levels within the PISA cognitive framework;
- an approach, including a methodology and analytical framework, for including out-of-school 15-year-olds in the assessments;
- increased country capacity in assessment, analysis and use of results for monitoring and improvement; and

- engagement with OECD, development partners and, prospectively, with other developing countries in order to identify peer-to-peer learning opportunities regarding participation in PISA and its potential contribution to the UN-led discussions on the post-2015 framework.

The CNA is designed to generate an understanding of capacity assets and needs, which, in turn, will lead to the formulation of a Capacity Building Plan (CBP). The framework utilises elements of the SABER-Student Assessment questionnaires developed by the World Bank (Clarke, 2012) as well as the PISA technical standards as the benchmarks for assessing Guatemala's assessment system and capacity for managing National and International Large-Scale Assessments. The standardised data obtained from applying the framework is incorporated into this CNA and will also be used to assist in identifying indicators, baselines, and targets for improvement in the context of the Capacity Building Plan. The tool used to enter data into the framework is online at: www.polymetrika.org/PISAD/Home/DataEntry.

The needs assessment was completed in Guatemala during 2014 through consultations led by the Directorate-General for Educational Assessment and Research (DIGEDUCA), which is also the National Centre (NC) responsible for implementing PISA for Development in Guatemala. The process involved a variety of stakeholders, primarily drawn from the K-12 sector in Education but also including Development Partners, Higher Education and the Central Statistics Office (CSO).

In general, the capacity needs analysis reveals that Guatemala is well-positioned to begin preparation for implementation of PISA for Development. The country already has a strong, well-established and well-managed assessment programme and has participated in other international assessments: SERCE, TERCE and ICCS. The DIGEDUCA took over these assessments from 2008 and its personnel have experience with both high-stakes individual examinations as well as survey-based assessments conducted at different grade levels. While there is a substantial amount of work required yet to develop local skills and expertise with methodology specific to PISA, difficulties in these areas are likely similar to those of many countries who are already participating in PISA. The main areas for development relate to the expanded scope of programme outputs of PISA for Development rather than PISA itself, specifically sampling out-of-school 15-year olds and analysis, dissemination and use of survey data, particularly for policy advice and recommendations.

The structure of this report is as follows: it begins with a description of the needs assessment methodology, Section 2, together with a presentation of the needs assessment framework. Section 3 summarises the needs assessment with respect to the five PISA for Development programme outputs, the PISA technical standards and the SABER benchmarks. Section 4 describes the capacity building priorities for Guatemala that arise from analysis of the main assessment dimensions. The detailed capacity needs analysis is presented at Annex A and the Terms of Reference for the capacity needs analysis are included at Annex B.

2. Methodology

The development and application of the CNA framework to Guatemala followed three distinct phases. The first phase involved the analysis of primary documents in order to develop an initial set of assessment criteria and preliminary data for the assessment framework together with a map of key stakeholders for interviews. The second phase involved the piloting of the initial assessment framework in the Guatemala context and the collection of data for the assessment, mainly through interviews and documentary analysis. The final phase consisted of refinement and extension of the analysis framework and drafting of the report with a view to facilitating the development of capacity building plans. At each stage the findings of the analysis were shared with the key stakeholders to ensure a shared understanding of the approach and the results of the needs analysis. Findings were adjusted in the light of feedback and actions taken by the

National Centre and the Ministry of Education in response to the initial analysis. The following sub-sections discuss each of these phases in greater detail.

2.1. Structure of the Capacity Needs Analysis framework

The structure of the CNA framework is presented in this sub-section. The framework consists (in the current working version) of 112 capacity elements that are required for successful implementation and stakeholder use of the PISA for Development products. Each element is defined by an overall description and descriptions of up to four levels of development (as applicable to each element), corresponding to the normative definitions described in sub-section 2.2.

The organising structure of the framework is hierarchical, with each PISA for Development capacity element nested within the three main dimensions:

- The enabling environment, encompassing the legislative context and culture that facilitates the implementation, and the stakeholders who make use of the results.
- Organisation, encompassing the National Centre and any sub-national institutions that are directly involved in the implementation of the project.
- Individual, encompassing the staff of the National Centre and related organisations, in particular the National Project Manager(s) and his/her team.

Within each dimension, the elements are further organised according to the PISA for Development project requirement for which they are first needed. The PISA for Development requirements are an extension of the main PISA project milestones; they roughly follow a sequence beginning with establishing the National Centre and ending with dissemination of results to stakeholders to support decision making:

- Designation of NPM and establishment of National Centre.
- Compiling and confirming information on schools and students for the definition of the assessment population, stipulation distribution of languages in which assessment materials will need to be available, definition of criteria for stratification of school and student samples.
- Establishing security protocols for the National Centre and for national sub-contractors.
- Co-ordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with international contractors, including the development of a national component.
- Deciding on the scale of national adaptations and number of assessment languages and co-ordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with local translators, subject experts and international contractors.
- Organisation of plans for local printing of assessment materials and verification of print and paper quality in all languages that will be covered, while maintaining security.
- Communication and co-ordination with schools that will participate in the assessment.

- Communication and co-ordination with international contractors for the selection of the student samples in each school.
- Recruitment and training of test administrators that do not have any direct relationship to the students that will be assessed and that are experienced and competent enough to carry out the testing sessions following the scripts, guidelines and procedures established.
- Planning of the quality assurance process so that Quality Monitors visit a sample of schools during testing sessions to observe and document quality of sessions.
- Planning of staffing and resources (technical and material) needed for coding of test booklets and contextual questionnaires and data management.
- Establishing a training plan with key staff of the NC to attend training sessions.
- Preparing and distributing testing materials to schools in a secure fashion, ensuring materials arrive safely and without suffering damage or alterations.
- Monitoring of school and student response rates, in co-ordination with international and national contractors, as appropriate.
- A sample of the student testing booklets that were coded will be submitted to the international contractor for an International Coder Review (ICR).
- The NPM, in consultation with educational authorities, the international contractors, the OECD Secretariat and relevant development partners, reviews the country's data base and the draft analysis plans for the national report.
- The NPM provides input and guidance with regards to the policy priorities that should help determine the content and analysis presented in the country report.
- NPM develops a national dissemination plan of their country's participation in PISA for Development and the relevant results from the pilot.
- Production of reporting documents and media.
- Dissemination of results to general audiences.
- Dissemination of results to key stakeholders.

This structure facilitates the prioritisation of different capacity elements throughout the programme implementation. Each capacity element is also indexed by the PISA for Development programme output for which it is most required.

In case further information is required, each element also refers to one or more primary documents (listed in section 1) to justify its inclusion in the framework.

2.2. Using the framework

The purpose of the CNA framework is to facilitate the development of in-country capacity for implementation of PISA for Development. The framework provides a step-by-step approach to

1) evaluating of the current capacity for implementing PISA for Development, 2) setting development goals related to PISA for Development activities, and 3) planning for development activities. However, the framework is not treated as static; rather, it is, where necessary, extended and refined based on information that emerges during the data collection process.

The rubric is reviewed with stakeholders to identify the current status of each element. The information may be collected using any appropriate needs assessment methodology such as questionnaire or interview. The completed rubric also includes a plain-language justification for each assigned rating. Once completed, the ratings and justifications, along with a narrative summary, are reviewed by key stakeholders. During the data collection or review process, if there are any new requirements identified, they may be added to the framework. If a new element is added, it is indexed by the structure defined in section 3.1, and the textual descriptions of the levels follow the normative descriptions described in section 2.2.

Preliminary target capacity levels are identified for each element and basic information for planning capacity building (defined in section 3.4) are completed along with the target ratings. The responsibility for developing specific capacity elements may be assigned to different resources, along with allocation of person-time, money and expected start/end dates. This information is used to develop the capacity building plan and prioritise the different capacity building goals.

2.3. Primary document analysis

The development and implementation of the CNA framework is built on four primary documents:

- PISA Technical Standards. This document details the quality standards required for successful participation in PISA. For the purposes of the CNA framework, these quality standards are also assumed to apply to the PISA for Development context.
- PISA for Development document. This document outlines the broad goals of PISA for development, as described in section 1.
- PISA National Project Manager (NPM) Manual. This document outlines the sequence of activities, as well as describes the recommended resources required for PISA implementation.
- SABER – Student Assessment (SABER-SA). The SABER framework describes the broader context of student assessment in a country. In particular, the CNA framework development focused on large scale assessments, particularly national and international assessments. These documents augmented the PISA-based documents by expanding on the requirements for participation to examine the broader enabling context. This dimension includes issues such as programme sustainability and the social, cultural and economic climates that will be necessary for meaningful use of the PISA results. The SABER framework uses evaluation rubrics that classify different elements of a county’s assessment system as either: Latent, Emerging, Established or Advanced. The different levels characterise the degree to which each element can support an effective assessment system, with “Established” representing the minimum level required to sustain an assessment system.

The first stage of analysis examined each of these documents from the dimensions of the enabling context, organisation and individual to identify the requisite elements of each dimension that are necessary to produce the PISA for Development programme outputs. Each element in the framework describes a salient characteristic in the country’s capacity that may be addressed with a targeted capacity building response; although the development of a single element sometimes required several capacity building

activities, the activities are similar enough that they draw from similar human or physical resources and affect the same group of country-level stakeholders.

For each of these preliminary programme elements, development levels were defined by following the rubric approach established by the SABER instruments. Using a priori assumptions about the key features likely to be found at the four SABER levels, plain language descriptions were defined for each level (as applicable) for each programme element. Completing the rubric involves interviewing stakeholders to collect information about each rubric element, then, for each element, identifying the appropriate development level and providing a justification for the rating.

2.4. Normative definitions

To facilitate the creation of textual descriptions for the different levels of each element of the framework, normative definitions were developed for the three dimensions. As new elements were identified and included in the framework, these normative descriptions guided the textual definitions for each level of the new element. For some elements, one or more of these levels did not apply; in these cases, the level remained undefined, as in the original SABER rubrics.

Table 1. Enabling Environment Ratings: Normative definitions used for each element

Latent	There is no environmental support or there are environmental obstacles that deter programme implementation
Emerging	There are political, economic or social structures in place that may be adapted to facilitate implementation
Established	Political, social or economic structures exist that can support implementation
Advanced	Political, social or economic structures are currently providing support to similar activities

Table 2. Organisational Ratings: Normative definitions used for each element

Latent	There is no capacity to assume this role
Emerging	Some capacity exists but it is not institutionalised in a coherent administrative structure
Established	Some capacity exists within a coherent administrative structure, but may lack availability or technical skills to assume responsibilities
Advanced	Capacity is institutionalised and has sufficient resources to assume the responsibilities without developing additional capacity

Table 3. Individual Ratings: Normative definitions used for each element

Latent	Individuals do not have the skills and/or are resistant to developing requisite skills
Emerging	Individuals have foundational knowledge or personal attributes that will enable them to acquire requisite skills or attributes
Established	Individuals have sufficient knowledge, interest and aptitude to allow development of requisite skills or attributes with brief workplace training and/or independent training and practice
Advanced	Individuals already have the required skills or attributes

2.5. Pilot analysis

The preliminary CNA framework was employed in the country context through in-depth interviews with a variety of stakeholders related to the education system and the broader education sector. Particular attention was paid to actors related to the production, use and interpretation of educational assessments. Interview subjects were selected using a snowball methodology, where a small sample of known interviewees participates in the recruitment of additional participants from among their acquaintances. This methodology was required to respect local protocols for arranging and conducting meetings and reach experts within the education community. The entry point to the process was the PISA National Project Manager (and/or implementing agency lead staff) as the point of entry. The scope then expanded to include educators, other assessment specialists, other government departments (i.e. higher education, statistics, trade/vocational), development partners, and leading voices in the national education discourse. Each participant was selected based on his or her knowledge or expertise in one or more of the three dimensions of the analysis. Many interviewees had extensive experience throughout the education sector in Guatemala and were able to provide information relevant to elements of the CNA framework outside of their current professional roles.

Each interview subject was asked detailed questions regarding each of the elements in the preliminary CNA framework. The format for the interviews generally followed a basic structure:

- Subjects were provided details about PISA for Development and the purpose of the capacity needs analysis and the role of the interview in the development of the capacity needs analysis framework.
- For each element in the preliminary framework that was relevant to their interests and experience, subjects were asked to describe the current status of the element as well as any features or dependencies related to the element, such as who are the main actors responsible for each element and historical challenges accomplishing similar activities (during this segment, subjects were given the opportunity to review and comment on summaries of previously collected information).
- Subjects were asked to volunteer any additional information related to any of the three CNA dimensions.
- Subjects were asked to identify and, if necessary, introduce the interviewer to additional subjects with information or experience relevant to the topics raised in the interview.

2.6. Stakeholder consultations

Completion of the CNA was facilitated by PISA for Development Project Manager Ms. Luisa Müller, the Director-General for Educational Assessment and Research (DIGEDUCA). The DIGEDUCA is the PISA for Development National Centre (NC), and Ms. Luisa Müller is the National Project Manager (NPM) managing the PISA for Development team that is based within the institution. Ms. Müller scheduled meetings with key stakeholders and participants involved with international and student assessment areas related to the implementation of the PISA for Development project. The consultation included interview with (and the information previously provided by) the following stakeholders:

Table 4. DIGEDUCA staff Interviewed

Name	Organisation	Unit	Position and background
Luisa Fernanda Müller	DIGEDUCA	Directorate-General	Director-General. Master's in education research, assessment and measurement.
Leslly de Leon	DIGEDUCA	Sub-directorate for execution	Sub-director for execution. Administrator for enterprise. Master in human talent administration and development.
José Adolfo Santos	DIGEDUCA	Sub-directorate for data analysis	Sub-director for data analysis. Electrical engineer. Master in education research, assessment and measurement.
Roxana Caballeros	DIGEDUCA	Coordination for on-site and technical support	Coordinator of the on-site and technical support area. Degree in computing. Master in pre-primary education.
Eira Cotto	DIGEDUCA	Co-ordination Unit Disclosure	Unit Coordinator Disclosure. Psychologist, clinical and educational. Specialisation learning problems. He is completing a master's in measurement, educational research and evaluation.
María José del Valle	DIGEDUCA	Sub-directorate for Instrument Development	Sub-director of development tools. High school teacher, Teacher (4years) in learning disabilities, BA in psychology (3 years), master's in measurement, evaluation and educational research.
Ana Isabel Pocon	DIGEDUCA	Division for instrument preparation in Spanish	In charge of special education needs assessments: attention deficit and visual and auditory impairments. Graduate in education sciences.
Rosen Miron	DIGEDUCA	Division for instrument preparation in Spanish	Works on primary and teaching instrument development. Primary school teacher, pedagogy teaching staff. Degree in school administration. Master in education research, assessment and measurement.
Sayra Cardona	DIGEDUCA	Coordination for division for instrument preparation in Spanish	Works on all processes. Psychologist. Master's in education research, assessment and measurement.
Luis Carrillo	DIGEDUCA	Division for instrument preparation in Spanish	In charge of designing instruments in Mathematics. Professor of media education in mathematics and civil engineering.
Georgina Afre	DIGEDUCA	Division for instrument preparation in Spanish	In charge of natural sciences (pilot course for sixth grade last year) and support for mathematics. Chemical engineer. Master in education for development. Currently following a master's in education research, assessment and measurement.
Claudia Díaz	DIGEDUCA	Assessment department	In charge of several processes, at present: NATIONAL READING PROGRAMME, over-age students, writing assessment for teachers and head teachers. The latter programme stems from the results of student writing. A sample with teachers applying for positions, detailed in the questionnaire for head teachers in the 2013 national sample. Degree in psychology.
Alan Palala	DIGEDUCA	Assessment department	Degree in education administration. Master in education administration. Master's in syllabuses.
William Castillo	DIGEDUCA	Research department	Degree in psychology.
Irma Paiz	DIGEDUCA	Research department	In charge of project assessment. Degree in psychology. Master's in education, research and assessment.
Romelia Mo	DIGEDUCA	Coordination for research and assessment	Coordinator for research and assessment. Degree in linguistics.
Diego Ceto	DIGEDUCA	Research department	Degree in teaching.

Table 5. Stakeholders Interviewed

Name	Institution	Unit	Position
Cynthia Carolina del Águila Mendizábal	Ministry of Education		Minister
Mónica Flores	DIGECUR Directorate-general for Syllabuses		Director general
Verónica Mérida	DIGECUR Directorate-General for Syllabuses		Sub-director for syllabus development
Miriam Glinz	DIGECUR Directorate-General for Syllabuses		Sub-director for syllabus assessment (classroom, syllabus assessment)
Gabriela Aguilar	DIGECUR Directorate-General for Syllabuses		Departmental director for syllabus assessment
Madyn López	DIGECUR Directorate-General for Syllabuses		
Wendy Rodríguez	Directorate-General for Extracurricular Education		Sub-director for basic education
Rebeca Girón	Directorate-General for Extracurricular Education		Sub-director for primary level 13-15, Abridged primary (AP), NUFED education centres
Anascelli Aguilar	Directorate-General for Extracurricular Education		Sub-director of education for employment and culture
Silvia de Arriaza	Directorate-General for Accreditation and Assessment (DIGEACE)		Director
Lilian Castillo	Directorate-General for Accreditation and Assessment (DIGEACE)		Sub-director general
Mirna Guerra	Directorate-General for Accreditation and Assessment (DIGEACE)		Sub-director for individual processes
Velvet Perez	Directorate-General for Accreditation and Assessment (DIGEACE)		Coordination for individual processes
Julieta de Franco	Directorate-General for Accreditation and Assessment (DIGEACE)		Sub-director for institution accreditation and certification
Oscar Saquil	Directorate-General for Intercultural Bilingual Education (DIGEBI)		Director general
Magda Cifuentes	Directorate-General for Intercultural Bilingual Education (DIGEBI)		Sub-director for education equality
Evelyn Ortiz	Directorate-General for Education Quality Management (DIGECADE)		Director general
Fernando Rubio	USAID	Read and Learn	Read and Learn project leader
Leslie Rosales	USAID	Read and Learn	Read and Learn project
Brian, Freddy, Idalmi, Jacquie, Amarily, Sandra, Alejandra.	National Institute for Basic Education of Chiquirichapa		Five students from 3rd year of basic level (grade 9), three aged 15 and two aged 14. Two students from 1st year of basic level (grade 7), one aged 14 and the other aged 13
Claudia	Distance Learning Institute of Chiquirichapa		Secondary education distance learning teacher
Luis	National Basic Education Institute of Chiquirichapa		Physical education teacher
Wildfredo	Distance Learning Institute of Chiquirichapa		Secondary education distance learning teacher
Amilcar	National Basic Education Institute of Chiquirichapa		Mathematics teacher
Leonardo	National Basic Education Institute of Chiquirichapa		

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Name	Institution	Unit	Position
Telma Juarez	National Basic Education Institute of Chiquirichapa Varied		Director and technician
Tlexidana			Principal/teacher
Felix			Principal/teacher
José Teodoro, Freddy, Casilda, Angélica	National Basic Education Institute of Chiquirichapa		Parents of students of 1st to 3rd year of basic education
Mariano Sánchez	Mayor of Chiquirichapa, Quetzaltenango		Responsible for Chiquirichapa municipality since 2012
Ingrid Mariela Espina Orellana	Regular Institute for Ladies of Central America INCA		Director of the Regular Institute for Ladies of Central America INCA
Sofía, Margaret, Katerin, Laura, Ingrid, Gabriela, Coraima, Briseida, Adriana, Marylin	Regular Institute for Ladies of Central America INCA		Students of 3rd year of basic level in various sections
Marina Gómez	Regular Institute for Ladies of Central America INCA		Music teacher
Ana Marina Ruano	Regular Institute for Ladies of Central America INCA		Physical education teacher
Luz Amanda Aragón	Regular Institute for Ladies of Central America INCA		Social sciences teacher
Alma Guevara	Regular Institute for Ladies of Central America INCA		Language and communication teacher
Yuvitza Müller	Regular Institute for Ladies of Central America INCA		Physical education teacher
Dr. Oscar Hugo López	University of San Carlos (USAC)	Secondary Education Teacher Training School (EFPEM)	Dean of the education faculty
Gabriela Búrbano	Del Valle University	Education Faculty	Dean
Silvia Yela	Del Valle University	Education Faculty	Education masters director
Carlota Escobar	Del Valle University	Education Faculty	Special education teaching staff director
Silvia Rosal	Del Valle University	Education Faculty	Director of degree qualifications and teaching staff in primary level. Director of the science area, in charge of the teacher training placement
Andrés Galvez Sobral	Del Valle University		Director of the Education Research Centre
Dr Luis Enrique López-Hurtado	GTZ		DIRECTOR of the EDUVIDA project for young people
Marcos Saz	GTZ		EDUVIDA project monitoring and assessment
Verónica Spross de Rivera	Entrepreneurs for education		Private foundation of entrepreneurs supporting project-based education
Cristiana de Amenábar	Novela Foundation		
María Isabel Cifuentes	National PRONACOM competitiveness programme		Programme organised by the Ministry of Economy to monitor development indicators. Coordinates several ministries and private bodies
Ing. Guillermo González	Private Association Consortium		An association (of 10 currently set up) which brings together 120 private associations of various religions
Diana Brown	Private Association Consortium		

Information from these stakeholders was also supplemented by analysis of the following documents and material:

- Guatemala National Assessment Questionnaires
- Guatemala National Assessment Tests

Information from high level stakeholders was collected during a meeting of the National Assessment Steering Committee, held at the Ministry of Education (Directorate of Planning) during 2014. The Committee is a senior-level body including members from all major stakeholders in the education sector, including Development partners. The PISA for Development project was included as an item on the meeting agenda. This meeting provided the opportunity to inform all senior-level stakeholders about the project and to respond to initial views and questions.

2.7. Refinement and extension

During the third phase of the CNA framework development and implementation the data collected during the second phase was analysed in order to identify elements that had been missing from the preliminary framework and to refine definitions within the rubrics. By necessity, there was some overlap between the second and third phases as interview subjects were revisited for additional clarifications. If the review identified clearly distinct prerequisites for existing elements, additional elements were added to the framework.

With the additional details provided by the interview subjects for each element, the CNA framework was extended to accommodate data collection specifically related to the development of a capacity building plan. The extended information includes the following data fields for each element:

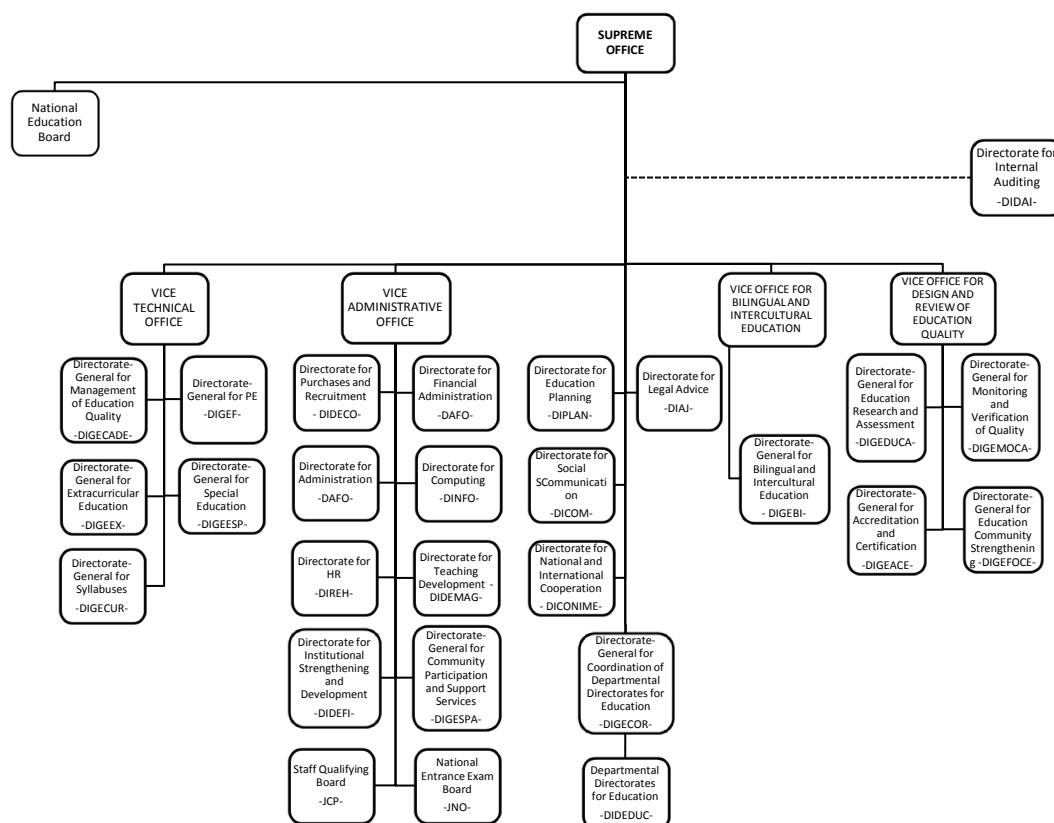
- the target level that Guatemala wishes to build its current capacity to meet;
- explanation about why the target level is advantageous within the Guatemala system's broader goals;
- the programme resource or actor primarily responsible for fostering the capacity building of the element;
- the individual person(s) responsible for championing the capacity building (with contact information);
- any prerequisites for the commencement of the specific capacity building activities with respect to the element;
- the estimated budget for the capacity building activities;
- the estimated person-days required for the capacity building activities;
- the expected start date for the capacity building activities; and
- the expected end date for the capacity building activities.

3. Summary of the Capacity Needs Analysis

This section summarises the current capacity as it relates to general capacity to implement the PISA for Development project requirements and realise the five PISA for Development programme outputs and as benchmarked against the PISA standards and the SABER rubrics. The completed needs assessment rubric for Guatemala, which also illustrates the structure of the CNA framework, is included in Annex A. The tool for exploring and modifying the framework, and facilitating the data entry and summarisation process, can be found at www.polymetrika.org/PISAD/Home/DataEntryhttp://polymetrika.ca/PISAD/. The material in Annex A is a direct export from this web-based tool.

Guatemala and its National Centre, DIGEDUCA, have the required capacity to implement the PISA for Development Project. DIGEDUCA is one of the 25 directorate-generals which, along with three other departments, is attached to the Vice Office for Design and Review of Education Quality, as shown in Figure 1.

Figure 1. Guatemala Ministry of Education organisational chart



Source: DIDEFI, Version 09/ 30-09-2013.

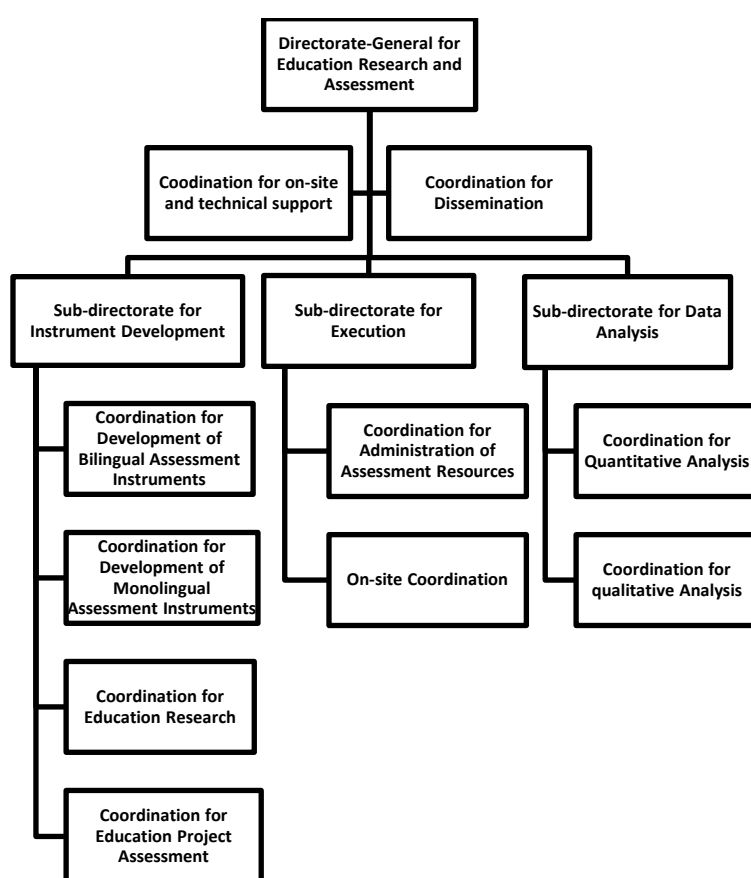
In 2008, owing to government resolution 2008/205,¹ internal organisation of the Ministry of Education was established and DIGEDUCA was set up as an office in charge of “assessing the achievement of the student population in school and extracurricular subsystems and disclosing information.” Its duties include: assessment by gauging the achievement of students according to education standards; analysis of these results to determine any changes and provide suggestions for improvement; design of

mechanisms to assess head teachers and teachers in key syllabus and language skill areas; research on factors linked to student achievement; and diagnostic assessments on human and teaching resources.

DIGEDUCA is a substantially large department attached to the Ministry of Education. It has a staff of 69 individuals who all work comfortably in spacious quarters housed in three different buildings. The main building is where all the tests and research are designed and produced. It also has a smaller building for its financial department. In addition, DIGEDUCA has also leased another building for its operations centre: a large area used for print verification, packing, codifying and storage processes.

The organisational structure of DIGEDUCA is based on coordination divisions and sub-departments, as shown in Figure 2.

Figure 2. DEGEDUCA organisational chart



Source: www.mineduc.gob.gt/digeduca/.

As mentioned, Guatemala has implemented assessments since 2006. A large body of the current team has worked on the national assessments before DIGEDUCA was even formally set up. The team has a firm basis and is well trained; what is more, it is institutionally enabled to allow for continuing training. The organisation is sufficiently horizontal as reflected in the skills of the members of its various teams, along with the huge commitment members make to their work.

In a large number of the interviews, it was observed that all sectors understood and took into consideration the goals of the assessment. Any reservation that can be spoken of would appear to come

from other Ministry departments, which goes to explain the greater working capacity and technical level of DIGEDUCA, far exceeding the practices of the other departments mentioned.

Education stakeholders have a major interest in assessing learning and they would like to be able to make greater, more efficient use of the results of these assessments. They have pointed out their concern to change practices based on suggestions stemming from the analysis of results. Moreover, the Minister acknowledges that there is a need to coordinate the functions of the Ministry and bring them in line with the needs shown by the assessments. Nevertheless, she states that there is a lack of interest and/or technical capacity in this regard. In reaction to the teaching assessment results, the Minister has backed major changes, such as greater demands for initial training.

The users of this information are glad that Guatemala is taking part in PISA for Development. Most state that it opens the door to a range of learning possibilities, a statement held by the Department of Syllabuses which declares that it is keen to learn from PISA owing to the difficulty it encounters in focusing syllabus implementation with a view to developing life skills.

Another strength for the Guatemala case in relation to PISA for Development implementation is the capacity and interest for research shown. Del Valle University, through its Faculty of Education, offers a master's in education research, assessment and measurement programme. Indeed, the Dean of the Education Faculty of the University of San Carlos states that his university will soon open an Education Research Institute as well.

Although this is a major benefit in supporting the activities of DIGEDUCA, it also poses a threat in terms of vying for trained staff.

As shown in the table below, more than 50% of the elements considered in the reference framework for each dimension meet the condition Established, suggesting that Guatemala and DIGEDUCA are undoubtedly prepared to successfully implement PISA for Development.

Table 6. Summary of CNA rating by CNA dimensions

Dimension	Level	Number of elements	Percentage within the dimension	Percentage as a proportion of all elements
Enabling environment	Latent	2	4%	1.8
	Emerging	7	15%	6.3
	Established	25	52%	22.5
	Advanced	13	27%	11.7
Organisation	Latent	1	3%	0.9
	Emerging	0	0%	--
	Established	19	53%	17.1
	Advanced	16	44%	14.4
Individuals	Latent	1	4%	0.9
	Emerging	2	7%	1.8
	Established	13	46%	11.7
	Advanced	12	43%	10.8

3.1. Enhanced contextual questionnaires and data-collection instruments

DIGEDUCA already conducts somewhat elaborate and suitable contextual questionnaires for all its tests. With the graduate tests, it conducts questionnaires on students and language and mathematics teachers. At primary level, it conducts questionnaires on the head teacher, the teachers and students of 1st, 3rd and 6th grade.

Consequently, the Directorate has experience in performing and analysing questionnaires. Furthermore, they recently commissioned a study to develop a reference framework for these questionnaires. Nevertheless, they have a major interest in acquiring capacity in order to carry out improved analyses.

3.2. Enhanced cognitive assessments

DIGEDUCA prepares mathematics and language tests for students in the final grade of secondary education (graduate test) and for the 3rd year of the basic cycle (9th grade) known as the national basic cycle assessment, set as a census. The former is conducted every year and the latter will be performed every other year henceforth. At primary level the Directorate prepares and conducts language and mathematics tests every year on a sample of students from 1st, 3rd and 6th grade (national primary assessment). In addition, they also carry out a reading assessment for initial grades (ELGI).

In order to prepare the items, writers are recruited to prepare them according to specifications tables provided by DIGEDUCA. In addition to being handed materials and an item preparation manual,² the writers are also trained.

Items are uploaded to a Question Mark platform where they are reviewed by an external and an internal verifier. Moreover, the project manager reviews them one by one. The verifier is given clear technical specifications regarding what is required and he/she then interacts closely with the writer until an agreement is firmly reached. Meetings may also be held with officials from each division with all writers and reviewers who use a form³ in order to save information about the item, including the taxonomy of Marzano for the difficulty level.

Items for equating that were administered in previous tests should be kept secured. The numbers of such items is equivalent to 20% of the total and are incorporated into the booklet delivered by the writers. For primary level it would equate to 10% in the case of a pilot test. A record is kept of the questions, opinions and remarks in pilot exams along with records of the applicators. Records are tabulated in order to be able to review items.

Following the experimental test, the data is incorporated into a database and the items are analysed. Using this information, decisions are made regarding what items will be included in the final test.

The number of forms depends on the regions, according to the number of students on each subject. For basic and graduate levels, there are 10 forms for reading and 14 for mathematics. Of these 14, 4 are adapted in order to be completed by students of commercial studies. During the 3rd grade of primary 14 forms are set for each subject. In 6th and 3rd grade, 4 forms are used for reading and 5 for mathematics. In the pilot project, 20 forms were given. In the most reliable booklets, items that do not fit in are removed and replaced with others. The various forms have the same content according to the specification tables and parameter. For this selection, discrimination is made according to the Rasch model and other classical theory parameters.

Reading tests for primary level and mathematics tests for 6th grade are aligned to the basic national syllabus. The graduate test is not aligned with the new syllabus at present because it has not yet been implemented.

The foregoing indicates that DIGEDUCA possesses experience in the process of preparing multiple choice items. However, in order to help adapt items to the PISA requirements and enhance the Directorate's national tests, greater capacity is needed in order to put together the tests, to prepare open questions with its own guidelines and in order to correct these items, as well as organising the processes to do so.

3.3. Assessment of the capacity for assessing, analysing and using results for monitoring of progress

Guatemala benefits from many reports published yearly regarding the tests and there is no question concerning the country's capacity to prepare them focussing on several stakeholders in the education system. This notwithstanding, the analyses shown in these reports could do with a greater level of sophistication and explanatory capacity. Most reports are based on percentages reaching a sole level of achievement which has been taken into consideration. There are four levels of achievement, but most reports group them to facilitate understanding. In other words, it is similar to a pass/fail type assessment. A study on associated factors conducted based on results from 2008 was prepared and published in 2010.⁴ At present, DIGEDUCA is preparing a reference framework for associated factor studies in order to subsequently improve data-collection instruments.

Aside from improving the kind of analysis to be conducted, it would be appropriate for DIGEDUCA to conduct a study enabling them to determine the efficiency of the reports prepared. Many of the addressees interviewed stated that they were unaware of the results of assessments and/or had not identified changes brought about thanks to this information. It is important to establish whether the difficulty lies in access to information, understanding said information or implementing the conclusions drawn from the results.

3.4. Identify peer-to-peer learning opportunities

The PISA team within the DIGEDUCA is eager to participate in any opportunities to learn and share with other countries and development partners. They attended all international workshops and meetings even though there are bureaucratic problems on travel fees. The Director-general of the DIGEDUCA and the staff have expressed the desire for the DIGEDUCA to represent a centre of excellence in the field of assessment in the region and the director has enough language abilities to communicate with other stakeholders. Developing this expertise will allow them to facilitate collaboration on best practices with other national assessment activities in other countries and coordinate international assessments.

4. Capacity development priorities

In summary, the priorities for each of the three dimensions (enabling environment, organisation and individual) are set out below.

4.1. Enabling environment

Funding for specific activities

Capacity building inputs received abroad has its limitations because the State of Guatemala does not fund trips overseas for officials. DIGEDUCA has addressed this issue by seeking assistance from international agencies; however, it would be important to plan the details of such a requirement in order to ensure funding is provided globally in advance.

Assessing and increasing efficiency of results reports

- Establishing the relationship between assessment results and policy measures with greater clarity.
- Ensuring access, understanding and application of result reports and documents by the various stakeholders.
- Conducting multivariate and dimensionality statistical analyses in order to prepare indices.

- Putting together tests according to rotated and equivalent groups of items.

Guatemala is inclined towards assessment and expects to reap the benefits to improve education quality. Perchance on account of these high expectations, its dissatisfaction stems from the fact that the changes that are needed according to the assessment results have not been introduced in the eyes of the country.

For PISA or any other assessment to have an impact on the various levels of the education system, policy-decision makers need to have access to and understand the results of the assessment and their implications. DIGEDUCA needs to identify the strategies in order to achieve this. The results of the learning assessment should also contribute to improve practices on the part of the stakeholders at the various levels of the education system. Accordingly, the interpretation of the results and their projections must make sense to these stakeholders.

In order to ensure this is achieved, DIGEDUCA must engage in a communication policy that showcases the link between the results and measures for improvement in an understandable, appealing way for the various parties involved.

Aside from being formally appropriate for the audiences to which they are addressed, results reports must be technically thorough. DIGEDUCA has sufficient analysis capacity for the tasks that have been carried out to date, but in order to make better use of the wealth of PISA data available it would be appropriate to advance towards more sophisticated analyses, such as multivariate or multilevel analyses using weighted indices.

Inclusion of young people aged 15 years who are not in school

Although there are institutions with experience in home surveys in Guatemala, DIGEDUCA does not possess such experience; hence, the two requirements stated below. Even if DIGEDUCA outsources this task, it will need knowledge in order to know how to act as a party to the operation.

- Techniques for sampling populations with specific characteristics and in cases where no thorough sample frameworks exist.
- Research and interview techniques for home surveys.

4.2. Organisation

Country capacity in assessment, analysis and use of results for monitoring and improvement of education quality

DIGEDUCA possesses experience in preparing tests and has conducted them for a number of years. Nevertheless, these tests do not include open questions and the experience of correction has only been witnessed within TERCE. It needs to expand its capacity for correction and adaptation with regard to the principles of preparing open questions and the respective guidelines or rubrics for correction.

- Quality control during the execution of the tests.
- Write and correct open questions.

Enhanced cognitive assessments for below-baseline proficiency levels in PISA

Psychometric analyses of items, especially differential operation and bias of items in order to raise the accuracy and relevance of the tests.

DIGEDUCA has expressed the need to learn how to prepare items based on the PISA framework and to prepare them specifying the difficulty before the psychometric analysis. It considers that capacity in these areas would make it possible to strengthen the test at the lower end of the difficulty scale.

Enhanced contextual questionnaires and data-collection instruments

- Understanding of and adapting the reference framework of the PISA contextual questionnaires to the reality of Guatemala.

4.3. Individuals

The individual capacity of the NPM is sufficient in order to carry out her task within PISA provided she is supported by her entire team.

It is this team that requires greater capacity in the specific characteristics of PISA; accordingly, we have included needs in relation to open questions and adaptation of items as part of the needs of the organisation.

5. Conclusion and next steps

Guatemala has extensive, successful experience in learning assessment. The country has been able to seek pathways for advanced skills and is prepared to take part in PISA. The capacity needs set out herein, backed by DIGEDUCA, are intended to improve its actions in order to place the country on a level footing with those that take part in the standard PISA project.

On the basis of this report, a capacity building plan covering the three years of project implementation will be developed. This capacity building plan will be clearly grounded in the implementation of PISA for Development, taking care to ensure that training and capacity building opportunities are costed and scheduled in a timely and effective way. This programme will be designed to equip the National Centre, the National Project Manager and other related actors with the capacity they require to implement the PISA for Development project successfully and, in addition, respond to the particular priorities for student assessment that Guatemala has identified beyond those necessary for project implementation, such as assessment methods, item development, analysis and use of data to support policy development and student assessment for curriculum reform.

NOTES

¹ http://infopublica.mineduc.gob.gt/mineduc/images/5/5c/DIDEFI_MINEDUC_INCISO1A_2012_VERSION1.pdf

² DIGEDUCA (2014), “Manual para redactar ítems de opción múltiple”, Ministerio de Educación Dirección General de Evaluación e Investigación Educativa (DIGEDUCA), Guatemala.

³ The form is found at the end of the “Manual para redactar ítems de opción múltiple” (DIGEDUCA, 2014).

⁴ www.mineduc.gob.gt/digeduca/documents/informes/Factores-Asociados-GRAD08.pdf.

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ANNEX A: SUMMARY OF RATINGS FOR CNA DIMENSIONS

The following Annex is a direct export of data from the PISA for Development CNA application. The structure of the information is hierarchical, nesting each PISA for Development needs assessment element within: 1) the three CNA dimensions (enabling environment, organisation, individual), 2) PISA for Development project requirements (the sequential operational requirements for implementation of PISA), and 3) the five PISA for Development programme outputs (enhanced questionnaires, enhanced assessments, out-of-school 15-year-olds, assessment capacity, and peer-to-peer learning). The original references for each CNA element are listed below the element description. The references describe the original source document and the numerical designation of the defining element. In documents where the elements are not enumerated, such as the NPM manual, the reference describes the relevant section heading. The rating for each element on the rubric is justified with reference to specific contextual details in Guatemala.

CNA Dimension 1. Enabling Environment

Project requirement 1. Designation of NPM and establishment of National Centre

1. Stability of NLSA programme

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
No NLSA exercise has taken place.	The NLSA has been operating on an irregular basis.	The NLSA is a stable programme that has been operating regularly.	

Justification: Since 2005 Guatemala has assessed students each year on a regular basis samples of 1st, 3rd and 6th primary grades; 9th grade (3º Básico) every 3-4 years as a census; and since 2006 12th grade as a census every year.

2. Having regular funding for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC3

Latent	Emerging	Established	Advanced
There is no funding allocated to the NLSA.	There is irregular funding allocated to the NLSA	There is regular funding allocated to the NLSA	

Justification: Guatemala had a budget of more than one million dollars for assessment in 2014, the same amount allocated as in 2013. These allocations will continue.

3. Adequacy of NLSA funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC3

Latent	Emerging	Established	Advanced
	Funding covers some core NLSA activities: design, administration, analysis or reporting.	Funding covers all core NLSA activities: design, administration, analysis and reporting.	

Justification: All regular activities are funded by the national budget. The ministry only receives loans and international aid for special programmes.

4. Relevance of NC expertise

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: NLSA

Latent	Emerging	Established	Advanced
There is no staff allocated for running an NLSA.	The NLSA office is inadequately staffed to effectively carry out the assessment.	The NLSA office is adequately staffed to carry out the NLSA effectively, with minimal issues.	The NLSA office is adequately staffed to carry out the NLSA effectively, with no issues.

Justification: The ministry has the minimum staff required for the assessments it has planned. These human resources are adequate, but will require development. The ministry has bureaucratic problems in hiring people and also salary difficulties when it comes to retaining people. In addition, there is a scarcity of trained people available for recruitment from outside the institution.

5. Experience in planning, organising and conducting large-scale surveys

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: NLSA

Latent	Emerging	Established	Advanced
The country/system does not offer opportunities that prepare individuals for work on NLSA.		The country/system offers some opportunities to prepare individuals for work on NLSA.	The country/system offers a wide range of opportunities to prepare individuals for work on NLSA.

Justification: Most of the people working at DIGEDUCA have a master's or are securing a master's in measurement, assessment and research in education offered by a private local university. DIGEDUCA is supporting some of its people in obtaining this master's.

6. Experience in planning, organising and conducting international assessments

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: ILSA

Latent	Emerging	Established	Advanced
The country/system has not participated in an ILSA in the last 10 years.		The country/system has participated in at least one ILSA in the last 10 years.	The country/system has participated in two or more ILSAs in the last 10 years.

Justification: Guatemala has participated in ICCS, SERCE and TERCE over the last 10 years and has built up a credible track record in ILSAs.

7. Having regular funding for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC2

Latent	Emerging	Established	Advanced
There is no funding for participation in ILSA.	There is funding from loans or external donors.	There is regular funding allocated at discretion.	There is regular funding approved by law, decree or norm.

Justification: The Ministry of Education submits the requirements of DIGEDUCA along with those of another 25 directorates to the Department of Finance who then passes this information on to Congress. The amount assigned to education is distributed by the ministry between all those directorates, including DIGEDUCA.

8. Adequacy of ILSA funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC2

Latent	Emerging	Established	Advanced
	Funding covers some core activities of the ILSA.	Funding covers all core activities of the ILSA.	

Justification: All in-country costs are covered by the ministry's budget. However, DIGEDUCA cannot buy tickets for travel and food or lodging abroad for its staff. It requires support from other organisations for this.

9. Bureaucratic efficiency

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1, PISA Technical Standards: Standard 1.1, PISA Technical Standards: Standard 7.1, PISA Technical Standards: Standard 14.1, PISA Technical Standards: Standard 14.2, PISA Technical Standards: Standard 15.1, PISA Technical Standards: Standard 15.2, PISA Technical Standards: Standard 15.3, PISA Technical Standards: Standard 15.4

Latent	Emerging	Established	Advanced
Stakeholders and the NC have no direct communication.		Channels for communication involve unnecessary third parties.	Communication channels allow direct institutional access between NC and stakeholders.

Justification: The Director-General is well known in the education field and she could very quickly and easily engage the people required for interviewing.

10. Efficiency of communication protocols

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.1, PISA Technical Standards: Standard 14.1, PISA Technical Standards: Standard 14.2, PISA Technical Standards: Standard 15.1, PISA Technical Standards: Standard 15.2, PISA Technical Standards: Standard 15.3, PISA Technical Standards: Standard 15.4, NPM Manual: Communication (NPM/NC responsibilities)

Latent	Emerging	Established	Advanced
The NPM is not able to engage directly or indirectly with key stakeholders	The NPM can engage with stakeholders but only indirectly through higher management levels	The NPM can engage directly with stakeholders but in a formal or subordinate role (i.e. with restricted exchange of communication)	The NPM can engage with most stakeholders on a peer-to-peer basis

Justification: The NPM has been the director for almost 8 years and prior to that spent 4 years as a sub-director and she is highly revered by people in the ministry and in universities. It is important to mention that every time the political government changes, all the directors of the ministry changes. Over the last three governments, DIGEDUCA was the only directorate that didn't change their director

11. Communication with stakeholders

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1, PISA Technical Standards: Standard 1.1, PISA Technical Standards: Standard 7.1, PISA Technical Standards: Standard 14.1, PISA Technical Standards: Standard 14.2, PISA Technical Standards: Standard 15.1, PISA Technical Standards: Standard 15.2, PISA Technical Standards: Standard 15.3, PISA Technical Standards: Standard 15.4, NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
There is no regular communication between the NC and stakeholders	The NC interacts with a network of contacts representing each stakeholder organisation	The NC provides regular updates or bulletins to stakeholders	The NC has regular meetings or accessible forums with stakeholders for two-way discussions

Justification: The ministry publishes specific reports on the assessments for the general public and another one for principals and teachers; posters for schools and education departments; and the *Evaluat* programme which show teachers the relationship between the syllabus and the tests. Every three months the Ministry publishes AJETAB'AL, a news bulletin, currently in its 15th edition.

12. NLSA research and development funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC3

Latent	Emerging	Established	Advanced
	Funding does not cover research and development activities	Funding covers some professional development activities	Funding covers research and development activities

Justification: The ministry supports staff members that are studying for master's degrees and in the development of research.

13. Having strong organisational structures for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC4

Latent	Emerging	Established	Advanced
There is no NLSA office, ad hoc unit or team	The NLSA office is a temporary agency or group of people	The NLSA office is a permanent agency, institution, or unit	The NLSA office is an independently-funded and operating agency, institution, or unit

Justification: DIGEDUCA is an established part of the Ministry of Education.

14. Autonomy of NLSA structures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC4

Latent	Emerging	Established	Advanced
	Political considerations regularly hamper technical considerations	Political considerations sometimes hamper technical considerations	Political considerations never hamper technical considerations

Justification: The release of results of the national assessment was delayed by the ministry somewhat because the minister was being questioned by the parliament and it was not a good opportunity to show results that had declined. However, there was no attempt to alter the results or to hide them, the results were presented anyhow.

15. Accountability of LSA structures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: NLSA

Latent	Emerging	Established	Advanced
	The NLSA office is not accountable to a clearly recognised body	The NLSA office is accountable to a clearly recognised body	

Justification: The NLSA office is accountable to the Vice-Minister of Education for Design and Verification of Education Quality.

16. ILSA research and development funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC2

Latent	Emerging	Established	Advanced
Funding does not cover research and development activities.		Funding covers some professional development activities.	Funding covers research and development activities.

Justification: DIGEDUCA has a team for research and the organisation supports some staff members in obtaining a master's in assessment.

Project requirement 2. Compiling and confirming information on schools and students for the definition of the assessment population

17. Geography and climate obstacles

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Large segments of the population are inaccessible to data collectors	Quality of transportation networks denies access of data collectors to certain regions	Quality of transportation networks limits the ability to reach certain regions under certain weather conditions	All regions are accessible

Justification: DIGEDUCA transports test materials using their own cars or rental cars. Some natural disasters have interrupted or delayed test administration processes, as happened with the earthquake in 2012 or certain floods that have obstructed highways.

18. Security issues with data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Lack of security prevents data collection for large segments of the population	Civil unrest makes certain regions inaccessible to data collectors	Civil unrest requires additional security to ensure the safety of personnel and integrity of data in certain regions	All regions are accessible

Justification: DIGEDUCA tests every region without problems, other than when there are natural disasters.

19. Effect of political climate on implementation

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Political conflict prevents project from proceeding	Political tensions introduce bureaucratic difficulties which reduce the ability of the NPM to reach a consensus with stakeholders or meet timelines	Political climate does not adversely affect the project	All relevant political bodies (government and opposition) actively support the project

Justification: Most stakeholders and people generally support student assessment and/or are familiar with it and there is no political opposition to assessment.

20. Reliability of student attendance

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.10

Latent	Emerging	Established	Advanced
Student attendance is unreliable and/or not monitored	Student attendance may be monitored but is vulnerable to out-of-school factors (e.g. work, weather)	Student attendance is reliable but is not formally monitored with attendance records	Student attendance is reliable, monitored, and enforced with attendance policies

Justification: Student attendance records are maintained for all grades. For 12th grade, the principal has to sign a document justifying that students were actually absent from schools.

21. Quality of school sample frame

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6, PISA Technical Standards: Standard 9.3, PISA Technical Standards: Standard 16.1

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Latent	Emerging	Established	Advanced
There is no EMIS or equivalent infrastructure to provide a school sampling frame	An EMIS is present but is not used or is not accessible for confidentiality or bureaucratic reasons	An EMIS exists and is accessible but is not updated regularly or the frame is inaccurate (missing schools or has schools that do not exist)	An EMIS is updated annually with an accurate frame

Justification: The EMIS database is updated yearly and has all the information required for PISA for Development. DIGEDUCA has used it to draw their own samples for national assessments.

22. Level of detail in administrative student data

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6, PISA Technical Standards: Standard 9.3, PISA Technical Standards: Standard 16.1

Latent	Emerging	Established	Advanced
No student data (e.g. grade, age) is available for individual schools	Student data (e.g. grade, age) is recorded in aggregate at the school level	Students data is recorded in central records that link student name and school name	Students have profiles and personal identification numbers that persist across grades and schools

Justification: Students in the database have a unique personal code. The Ministry hopes it will be linked to citizens' national records in the future.

23. Scheduling conflicts due to local political activities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Regional resources are not available due to conflicting or uncertain availability	Uncertainty over the timing or magnitude of political or civic events results in inability of individuals, institutions, or regions to commit to participating in PISA	Use of common resources (schools, teachers/ head teachers) causes scheduling conflicts with implementation of PISA in schools	Scheduled political or civic activities do not adversely affect the project

Justification: DIGEDUCA has demonstrated its capacity to manage scheduling conflicts, such as changing the timing of a test because an activity for teachers was planned on that same date. However, in most cases the test is prioritised over other activities.

24. 15-year-old census

Programme output: Including out-of-school 15-year-olds

References: PISA for Development Document

Latent	Emerging	Established	Advanced
No information is available about out-of-school 15 year olds	Information about out-of-school 15-year-olds is available from data sources updated with >5 year frequency	Information about out-of-school 15-year-olds is available from data sources updated with 2-5 year frequency	Information about out-of-school 15-year-olds is available from data sources updated annually

Justification: There is some knowledge of the total number of 15-year-olds, but no detailed information regarding their distribution within the country.

25. Location of 15-year-olds

Programme output: Including out-of-school 15-year-olds

References: PISA for Development Document

Latent	Emerging	Established	Advanced
No information is available about geographic location of 15-year-olds	Information about location of 15-year-olds is at regional levels (e.g. number of 15-year-olds in each province)	Information about location is at community or district levels (e.g. number of 15-year-olds in each community)	Information about location includes household addresses of 15-year-olds

Justification: The Ministry has only a gross estimation of the number of young people out of school and the census is very much outdated. The last one is from 2002.

Project requirement 3. Stipulation of languages in which assessment materials will need to be available

26. Information on student language of instruction

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 2.1

Latent	Emerging	Established	Advanced
No student records are available	Student records are available but do not store dominant language of instruction	Student information records the dominant language of instruction	Student information records the language of instruction for each subject

Justification: Starting in 4th grade all subjects are taught in Spanish. Only primary schools are classified as mono or bilingual.

27. Information on school language of instruction

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 2.1

Latent	Emerging	Established	Advanced
There is no EMIS or equivalent system	School information is centrally stored but without language of instruction	School information contains predominant language of instruction	

Justification: Starting in 4th grade all subjects are taught in Spanish. Only primary schools are classified as mono or bilingual

Project requirement 4. Definition of criteria for stratification of school and student samples

28. Clear statement of purpose for participation in NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
There is no policy document pertaining to NLSA.	There is an informal or draft policy document that authorises the NLSA.	There is a formal policy document that authorises the NLSA.	

Justification: Ministry resolution: Regulation on Learning Assessment 1171-2010, Guatemala 15 July 2010.

29. Transparent policy for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
	The policy document is not available to the public.	The policy document is available to the public.	

Justification: This document (Regulation on Learning Assessment 1171-2010, Guatemala 15 July 2010) has the status of a ministry decree and can be found on the Internet.

30. Clear statement of purpose for participation in ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC1

Latent	Emerging	Established	Advanced
There is no policy document that addresses participation in ILSA.	There is an informal or draft policy document that addresses participation in ILSA.	There is a formal policy document that addresses participation in ILSA.	

Justification: For TERCE there is an agreement letter between UNESCO and the ministry that is on the Internet. See "Carta de Acuerdo – Participación en el Laboratorio Lationamericano de Evaluación de la Calidad de la Educación (LLECE) 2009-2013" (UNESCO, 2010) and "Anexo a Carta de Acuerdo – Participación en el Laboratorio Lationamericano de Evaluación de la Calidad de la Educación (LLECE) 2014" (UNESCO, 2013). Guatemala signed the participation agreement for PISA for Development with the OECD in September 2014.

31. Use of ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
If any country/system-specific results and information from the ILSA are not used to inform decision-making in the country/system.	Results from the ILSA are used in a limited way to inform decision-making in the country/system.	Results from the ILSA are used in some ways to inform decision-making in the country/system.	Results from the ILSA are used in a variety of ways to inform decision-making in the country/system.

Justification: The expectation is that ILSA results were used. There was dissemination of national results for SERCE, as can be seen in "Con Relación al SERCE en Guatemala: Presentación de resultados a Directores" (DIGEDUCA, 2010).

32. Stakeholder use of LSA data

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1

Latent	Emerging	Established	Advanced
No stakeholders use of LSA	Stakeholders reference reported average scores and 'passing' percentages from published LSA information	Stakeholders commission specialised reports or reference correlations and other specific information from LSA	Stakeholders actively analyse data for specific information

Justification: In the press and other media there were several comments on SERCE. See "Con Relación al SERCE en Guatemala: Presentación de resultados a Directores" (DIGEDUCA, 2010).

Project requirement 9. Communication and coordination with schools that will participate in the assessment

33. Engagement of data collection agency or network with collection sites (e.g. schools)

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6

Latent	Emerging	Established	Advanced
	The NC has contact information for individuals with access to school sites	The NC has intermittent administrative contact with schools or contact through previous LSA	The NC has regular contact with schools through professional development and/or previous LSA activities

Justification: DIGEDUCA held meetings with principals and with technical staff from other directorates in the ministry.

34. Perceptions of external survey-based large-scale assessment (LSA) of lower-level stakeholders

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.10

Latent	Emerging	Established	Advanced
Stakeholders have no knowledge of external LSA or assume that LSA is used to evaluate specific school performance	Stakeholders understand LSA is not antagonistic but see it as an unnecessary disruption	Stakeholders recognise a clear washback effect from the results of LSA and the policies and practices affecting learning	Stakeholders recognise external uses of LSA information and make internal use of LSA results to inform policy and practice

Justification: Stakeholders are claiming that there should be more feedback from the ministry to the schools and teachers so they can overcome their shortcomings. LSA are not seen as a disruption or as unnecessary, but the stakeholders do not recognise washback either.

Project requirement 14. Establishing a training plan with key staff of the NC to attend training sessions

35. Funding for NPM/NC for international training and meetings

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: International participation

Latent	Emerging	Established	Advanced
No budget or time exists for international training	Ad hoc funds are allocated, when available, to support participation in international training and meetings	Institutional participation is formally committed, with funding from a variety of sources	Dedicated funds are available for participation in international training and meetings

Justification: DIGEDUCA and the minister are committed to reap the benefits of as much training as possible. However, their budget is restricted. The ministry usually receives funds from international cooperation to support training.

36. Availability of NPM/NC for international training and meetings

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: International participation

Latent	Emerging	Established	Advanced
Staff are prevented from participating in international activities due to restrictions on personal or professional travel	No time is allocated for international activities, and they are completely external to staff's institutional responsibilities	Participation in international activities is within the scope of institutional responsibilities, but in addition to regular responsibilities	Time is specifically allocated to participation in and preparation for international activities

Justification: The ministry cannot buy air tickets with public funds, but they have attended international training using development partner resources.

37. Participation in previous international ILSA training

Programme output: Identify peer-to-peer learning opportunities regarding PISA participation with other countries and development partners

References: SABER-SA-ILSA: SA1

Latent	Emerging	Established	Advanced
The ILSA team has not attended international workshops or meetings.	The ILSA team attended some international workshops or meetings.	The ILSA team attended all international workshops or meetings.	

Justification: The DIGEDUCA team attended most meetings despite bureaucratic problems in buying tickets.

Project requirement 25. NPM develops a national dissemination plan of their country's participation in PISA for Development and the relevant results from the pilot

38. Expectations for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
There is no plan for NLSA activity.		There is a general understanding that the NLSA will take place.	There is a written NLSA plan for the coming years.

Justification: The ministry has a medium-term plan ("Ruta Crítica") for the entire education system that includes assessments.

39. Having strong public engagement for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC2

40 – ANNEX A: SUMMARY OF RATINGS FOR CNA DIMENSIONS

Latent	Emerging	Established	Advanced
All stakeholder groups strongly oppose the NLSA.	Some stakeholder groups oppose the NLSA.	Most stakeholder groups support the NLSA.	All stakeholder groups support the NLSA.

Justification: Even though some stakeholders have certain concerns with regard to the use/non-use of assessments, they all see the advantages of NLSA.

Project requirement 27. The NPM provides input and guidance with regards to the policy priorities that should help determine the content and analysis presented in the country report

40. Setting clear policies for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC1

Latent	Emerging	Established	Advanced
	The policy document is not available to the public.	The policy document is available to the public.	

Justification: The policy document and agreement letter is on the Internet.

41. Contributions to ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ1

Latent	Emerging	Established	Advanced
The country/system has not contributed new knowledge on ILSA.			The country/system has contributed new knowledge on ILSA.

Justification: In TERCE, countries collaborated with the syllabus analysis and with item construction and revision.

42. Dissemination of ILSA results

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
If any, country/system-specific results and information are not disseminated in the country/system.	Country/system-specific results and information are disseminated irregularly in the country/system.	Country/system-specific results and information are regularly disseminated in the country/system.	Country/system-specific results and information are regularly and widely disseminated in the country/system.

Justification: SERCE results were disseminated, as far as possible, but it is not easy to reach every teacher (see "Con Relación al SERCE en Guatemala: Presentación de resultados a Directores" (DIGEDUCA, 2010). TERCE has not yet released results.

43. Feedback from ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
Products to provide feedback to schools and educators about the ILSA results are not made available.	Product to provide feedback to schools and educators about the ILSA results have sometimes been available, BUT teachers do not profit from them.	Products to provide feedback to schools and educators about the ILSA results are sometimes made available.	Products to provide feedback to schools and educators about ILSA results are systematically made available.

Justification: Information was only provided to school principals. They have distributed pedagogical guides to 30% of schools and result reports for 3rd and 12th grade are given to every school. However, teachers do not acknowledge having received them. There is much that still needs to be done in this respect.

44. Breadth of stakeholder engagement

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1

Latent	Emerging	Established	Advanced
Only the K-12 sector is engaged in LSA	K-12, TEVET and University sectors are engaged in LSA	Multiple stakeholders representing public interests including education and non-education sectors are engaged	Multiple stakeholders are engaged including non-government or indirect educational stakeholders

Justification: Not only are officials within the education system interested and involved in PISA for Development; entrepreneur foundations are also very much interested along with cooperation agencies and some NGOs. Universities have also said that they can benefit from it.

45. Media coverage of ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

42 – ANNEX A: SUMMARY OF RATINGS FOR CNA DIMENSIONS

Latent	Emerging	Established	Advanced
There is no media coverage of the ILSA results.	There is media coverage of the national averages and percentages from ILSA results.	There is national media coverage of the ILSA results beyond national averages/percentages that includes correlations and demographic comparisons.	There is national and local media coverage of detailed ILSA results.

Justification: See "Con Relación al SERCE en Guatemala: Presentación de resultados a Directores" (DIGEDUCA, 2010). There is media coverage comprising comparisons with other countries, but it is not very detailed.

46. Positive washback of ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
It is not clear that decisions based on ILSA results have had a positive impact on students' achievement levels.		ILSA results have influenced decision-making intended to improve students' achievement levels.	Decisions based on the ILSA results have had a positive impact on students' achievement levels.

Justification: The attention of many stakeholders in the system was drawn by the ILSA results to the serious quality problem in education.

47. Learning needs for non-academic outcomes

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA for Development Document

Latent	Emerging	Established	Advanced
No attention is given in the education sector to non-academic skills		The trade/vocational training sector defines foundational skills for occupational training	A framework extends the K-12 curricula to adult competencies relevant to local contexts (including economy, citizenship, etc.)

Justification: The ministry is trying to implement a syllabus based on competencies and life-oriented requirements.

Project requirement 32. Planning of the quality assurance process so that Quality Monitors visit a sample of schools during testing sessions to observe and document quality of sessions

48. Monitoring of collection procedures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 9.3

Latent	Emerging	Established	Advanced
	Institutions or individual stakeholders may nominate or exclude specific sites from monitoring	Monitored sites are selected randomly with ad hoc exclusions	Monitored sites are randomly sampled and the rationale for any exclusions from site monitoring is agreed upon prior to sampling

Justification: According to DIGEDUCA's protocols they have supervisors working in every assessment region from their own staff and these are responsible for monitoring. However, these supervisors do not observe all the processes that take place in the classrooms during assessments. Inside the classrooms there are two test administrators and one of these has the function of observer, but this person does not register what happens. If the supervisors want to report an anomaly they must ask for a special form.

CNA dimension 2. Organisation

Project requirement 1. Designation of NPM and establishment of National Centre

49. National coordinator for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC3

Latent	Emerging	Established	Advanced
There is no team or national/system coordinator to carry out the ILSA activities.	There is a team or national/system coordinator to carry out the ILSA activities.	There is a team and national/system coordinator to carry out the ILSA activities.	

Justification: The Director of DIGEDUCA is the NPM who will coordinate the centre's teams to implement PISA for Development.

50. Effectiveness of human resources for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC3

Latent	Emerging	Established	Advanced
	The ILSA office is inadequately staffed or trained to carry out the assessment effectively.	The ILSA office is adequately staffed or trained to carry out the ILSA effectively, with minimal issues.	The ILSA office is adequately staffed and trained to carry out the ILSA effectively, with no issues.

Justification: The staff of DIGEDUCA are somewhat overloaded, but they manage on the basis of an extraordinary commitment. However, key people do not have potential replacements and it would be difficult to replace them if and when they move on. There is scope and interest for improvement in staffing and some additional qualified staff would make this possible.

51. Scheduling priority given to ILSA activities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NC staff are typically assigned higher priority requests related to other projects	NC staff are typically required to immediately attend or do not reschedule meeting requests from managers or colleagues (i.e. meeting requests take priority over pending work)	NC staff manage their own schedules and may reschedule ad hoc meeting requests	Administrative support for NC intercepts and schedules or coordinates ad hoc meeting requests on behalf of NC staff

Justification: There is a balance in DIGEDUCA workloads between the need to attend to some external requests and the assessment work plan.

52. Availability of NPM

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM time is committed as required, in addition to regular responsibilities	Part time commitments from one or more people do not adequately cover the minimum PISA commitment (two full-time equivalents). PISA responsibilities are managed through paid or unpaid overtime	Sufficient time commitments are made by NC staff to meet PISA demands, but no individuals are assigned full-time to PISA responsibilities	Sufficient person-time is allocated to PISA with at least one full-time (non-clerical) NC staff member.

Justification: The NPM, being the director of the NC, has many additional responsibilities to PISA for Development. However, she also has the capacity and authority to delegate and organise the different teams that she is responsible for.

53. Engagement of clerical/administrative support

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 17.4

Latent	Emerging	Established	Advanced
Clerical support is not involved in correspondence (NPM manages all correspondence directly)		Clerical support distributes outgoing correspondence from NC	Clerical support is the initial point of contact and/or has access to all incoming and outgoing correspondence

Justification: Administrative support within DIGEDUCA is efficient and diligent.

54. National Centre coordination

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NC staff have no set schedule of appointments or meetings		Staff meetings are scheduled and attended regularly	NC staff use shared agendas to enable regular and ad hoc scheduling of meetings

Justification: The DIGEDUCA personnel have shared agendas. The administrative staff coordinate these agendas and facilitate meetings.

55. Access to a reliable, high bandwidth Internet connection and e-mail facilities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
NC has no Internet access	NC has low bandwidth or unreliable Internet	Reliable, high bandwidth Internet is available onsite at selected terminals within the NC	NC has a fully networked environment with universal access to high bandwidth Internet and email

Justification: The ministry does not have Wi-Fi, and Internet is quite slow and fails at least once a week.

56. Computing environment

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
Not all staff have full-time computer access or do not have access to document and spreadsheet applications	NC relies on personal computers of staff running Windows XP or later with Microsoft Office professional (2007 or later); all computers include Excel and Word applications but do not connect to a workplace network	NC staff all have personal or dedicated computers with standard software; access to the workplace network may be limited	NC has dedicated workplace computers for all staff with standard software and network access

Justification: All DIGEDUCA personnel have computers and Internet access, but not everybody has top-level computers for their needs and Internet quality is deficient.

57. Data quality of ILSA

Programme output: Identify peer-to-peer learning opportunities regarding PISA participation with other countries and development partners

References: SABER-SA-ILSA: AQ1

Latent	Emerging	Established	Advanced
Data from the ILSA have not been published.	The country/system met sufficient standards to have its data presented beneath the main display of the international report or in an annex.	The country/system met all technical standards required to have its data presented in the main displays of the international report.	

Justification: The database has already been sent and no error notifications have been received in respect of TERCE.

58. Local capacity building for ILSA

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: SABER-SA-ILSA: SA1

Latent	Emerging	Established	Advanced
The country/system offers no opportunities to learn about ILSA.		The country/system offers some opportunities to learn about ILSA.	The country/system offers a wide range of opportunities to learn about ILSA.

Justification: DIGEDUCA offers some opportunities to learn about ILSA, but is not able to reach teachers in every location.

Project requirement 5. Establishing security protocols for the National Centre and for national sub-contractors

59. Integrity of coding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 11.4

Latent	Emerging	Established	Advanced
	Coders are selected from bureaucratic appointments or personal networks	Coders are selected from nominated applicants using transparent criteria	

Justification: DIGEDUCA's tests do not include open-ended questions so their only experience in coding was for SERCE. DIGEDUCA developed terms of reference for contracting coders according to a certain profile.

60. Computing security

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
Security software is limited to pre-installed software on personal or office computers	Staff are personally responsible for maintaining antivirus and software updates without supervision	Staff follow institutional policies regarding regular software and antivirus definition updates	Dedicated IT staff or network policies ensure all software updates are installed at the institutional level

Justification: There are IT protocols that DIGEDUCA staff are expected to follow, but IT support is not as efficient as we would desire.

61. Accountability for security

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2

Latent	Emerging	Established	Advanced
There are no consequences for breaches in security	There are ad hoc or discretionary policies regarding how to respond to breaches in security	There are discipline policies for breaches in security with ad hoc or discretionary consequences and individuals with access to secure materials are aware of security protocols	Where uncontrolled access is possible, legally binding confidentiality agreements enforce the data access restrictions and apply to all staff

Justification: DIGEDUCA has strict confidentiality and security measures.

62. Secure storage of completed materials following data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2

Latent	Emerging	Established	Advanced
No secure facilities are available to the NC		Repurposed storage or private office space is used to secure materials within the NC	NC facilities have a specific security infrastructure for storing data collection materials (i.e. it is not physically possible for individuals to access secure material without it being granted by NPM)

Justification: The operation centre of DIGEDUCA is a large building with special storage places in which material is stored in an orderly, safe manner. How long it will be kept is unknown.

63. Adherence to security protocols

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2

Latent	Emerging	Established	Advanced
NC staff and partners have no experience with or no culture of security	There is a legal or administrative framework for accountability with respect to security	Staff with access to secure materials receive training in security protocols	All staff receive training in security protocols

Justification: In addition, DIGEDUCA staff sign a confidentiality agreement.

64. Security auditing

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2

Latent	Emerging	Established	Advanced
No tracking is made of access to secure materials	A list of individuals with permission is used to grant access to secure materials	The NPM can invoke or revoke access for any individual on the permitted list at any time	Access to secure materials is verified and recorded every time the material is accessed

Justification: All secured material are held in the "operational centre", which has a guard on the door and people that are not permanently authorised, even if they work for DIGEDUCA, have to write their names, sign and write the purpose of the visit before they can gain access. This procedure is followed in all cases.

65. Secure space for conducting the coding operations

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
No facilities are available	Multi-purpose facilities outside the NC are available for coding	Multi-purpose facilities within the NC may be secured for coding	Dedicated secured facilities are available

Justification: The operation centre of DIGEDUCA is big enough to conduct several processes.

66. Software resources

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
There is no mechanism for acquiring specialised software that is not already installed with a computer at the time of purchase	Individuals may download or purchase software for their own use without technical support or oversight	Individuals may download or purchase software for their own use but have access to institutional copies of required software	The NC administration maintains software licenses and manages acquisition and installation of necessary software

Justification: Each year the budget for DIGEDUCA takes into consideration the cost of purchasing and updating licenses.

Project requirement 9. Communication and coordination with schools that will participate in the assessment

67. Sufficiency of data collection staff

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.7, PISA Technical Standards: Standard 1.8, PISA Technical Standards: Standard 3.1

Latent	Emerging	Established	Advanced
There are no available data collections staff	Available data collection staff are inexperienced, poorly trained, or do not have appropriate linguistic skills	There are few trained data collectors who must travel to many sites or many inexperienced or linguistically challenged data collectors	There is a sufficient number of qualified data collectors for all sites

Justification: The data collectors are permanently hired by another directorate of the ministry. The number may vary between 120 and 150, so DIGEDUCA has to adjust the assessment schedule according to staff availability and may need to hire additional temporary staff. All staff are trained before each test process.

Project requirement 14. Establishing a training plan with key staff of the NC to attend training sessions

68. Availability of ILSA training

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: SA1

Latent	Emerging	Established	Advanced
		Opportunities to learn about ILSA are available to the country's/system's ILSA team members only.	Opportunities to learn about ILSA are available to a wide audience, in addition to the country's/system's ILSA team members.

Justification: Many people in Guatemala are expecting to learn and reap benefit from PISA for Development results. To make this possible, it is necessary for other directorates within the ministry to assume their role in regard to teacher support.

Project requirement 24. Recruitment and training of test administrators that do not have any direct relationship to the students that will be assessed and that are experienced and competent enough to carry out the testing sessions following the scripts, guidelines and procedures established

69. Commitment of data collection staff

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.7, PISA Technical Standards: Standard 3.1, PISA Technical Standards: Standard 1.3

Latent	Emerging	Established	Advanced
Insufficient data collection staff	Data collection staff are part-time, shared with other institutions	Data collection staff are part-time, shared with other projects in the same institution	Data collection staff are specifically hired or reassigned for this role/project

Justification: There are permanent data collection staff that work in the Ministry. They can supervise or conduct the PISA for Development test. During test sitting periods, the data collection staff are released from their other duties. According to "Acuerdo Gubernativo 255-2010 Reglamento Orgánico del Ministry of Education" (Organic Regulation of the Ministry of Education), Article 16, d, the division that monitors and verifies quality, DIGEMOCA, is obliged to conduct teachers and students tests prepared by DIGEDUCA as planned.

70. Availability of training facilities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.2, PISA Technical Standards: Standard 11.2

Latent	Emerging	Established	Advanced
No facilities available (self-study or one-one-one)		Existing facilities may be repurposed to accommodate training	A dedicated training environment is available

Justification: In the operation centre of DIGEDUCA there is enough space to accommodate training.

71. Avoidance of conflicting interests

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.3

Latent	Emerging	Established	Advanced
Hiring for data collection is treated as casual employment	The NC maintains employment records of data collectors	Employment records include subjects taught by data collectors and schools worked at	Employment framework require data collectors to disclose any potential conflict of interest

Justification: It is included in the terms of reference for the data collectors.

72. Commitment of data collectors to training

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.2

Latent	Emerging	Established	Advanced
There is no provision or time for training	Data collectors must volunteer time or training time conflicts with regular responsibilities	Data collector time is compensated but regular responsibilities may conflict with the training schedule	Training time is compensated and is integrated with regular duties (or staff are hired exclusively for data collection)

Justification: During the test period, the data collectors are assigned specifically to this task. When required, school teachers are asked to cooperate with the assessment.

73. Household survey collection

Programme output: Including out-of-school 15-year-olds

References: PISA for Development Document

Latent	Emerging	Established	Advanced
No in-country capacity to conduct national surveys	Public or private data collection agencies are available but do not have capacity for national surveys	The NC has access to service providers with national survey capacity	National centre staff already have staff or an existing relationship with resources for national survey collection

Justification: The University of San Carlos in Guatemala and Del Valle University in Guatemala have carried out surveys at the national level.

74. Correct sequencing of administration of national options

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 7.2

Latent	Emerging	Established	Advanced
Data collection staff have been/will be given instructions on the protocols	Data collection staff have been/will be trained after PISA design has been finalised	Data collection staff have been/will be trained using the final instruments	Final administration protocols are/will be sequentially scripted and bound and provided with the international testing materials

Justification: DIGEDUCA is not planning to have national options. And they confirmed they would like to know the rules for ILSA tests and what the requirements for any national option should be at the end.

Project requirement 25. NPM develops a national dissemination plan of their country's participation in PISA for Development and the relevant results from the pilot

75. Providing teachers with opportunities to learn about the NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: SA2

Latent	Emerging	Established	Advanced
There are no courses or workshops on the NLSA.	There are occasional courses or workshops on the NLSA.	There are some courses or workshops on the NLSA offered on a regular basis.	There are widely available high quality courses or workshops on the NLSA offered on a regular basis.

Justification: Every year DIGEDUCA holds technical workshops for staff in other directorates of the ministry and departmental supervisors. DIGEDUCA also prepares materials and resources for teachers' use.

Project requirement 26. Preparing and distributing testing materials to schools in a secure fashion, ensuring materials arrive safely and without suffering damage or alterations

76. Booklet distribution infrastructure

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Only ad hoc or site-specific printing resources are available		Service provider(s) or internal staff may be contracted or retasked to print and distribute booklets but must be trained with proper protocols	Existing infrastructure can be used to transport testing materials using pre-existing security protocols

Justification: Distribution of testing materials is done using vehicles owned or rented by DIGEDUCA. The operation is based at the Operation Centre of DIGEDUCA.

77. Adequacy of transportation for data collectors

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.7, PISA Technical Standards: Standard 3.1, PISA Technical Standards: Standard 1.3

Latent	Emerging	Established	Advanced
	Data collectors use public or shared transportation or use personal transportation without reimbursement	Data collectors use personal vehicles with reimbursement	Data collectors use dedicated institutional vehicles

Justification: Data collectors use vehicles owned or rented by DIGEDUCA.

Project requirement 28. Coordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with international contractors

78. Effectiveness of training for data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.1

Latent	Emerging	Established	Advanced
	Training for data collection consists of review of protocols or may not be standardised	Training for data collection is conducted individually	Training for data collection is conducted in group settings with feedback between trainees

Justification: Before each testing process there are training sessions for groups of test administrators organised by DIGEDUCA.

79. Availability of document formatting and print specifications

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 10.2, PISA Technical Standards: Standard 10.3, PISA Technical Standards: Standard 10.4, NPM Manual: NC responsibilities

Latent	Emerging	Established	Advanced
Authors choose formats for their own documents	Document and print specifications are not standardised or easily accessible	All document print and specifications are maintained in manuals accessible to all NC staff	

Justification: This is the way in which DIGEDUCA have worked on all NLSA and ILSA.

Project requirement 29. Monitoring of school and student response rates, in coordination with international and national contractors, as appropriate

80. Responsiveness of sample design to data collection activities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6

Latent	Emerging	Established	Advanced
There no updates on sampling or non-response provided during data collection period		The data collection is periodically updated to respond to sample non-response and assign replacements	Daily or real-time updates on data collection or sample design are available from centralised data processing

Justification: There are different assessment arrangements in place: assessments at primary grades are updated daily in regard to schools assessed and in regard to students the information is collected at the end of the week. For census assessments (9th and 12th grades) schools and students assessed are reported on daily. For TERCE there has been special software to include this information, but it is required at the end of the process.

Project requirement 30. Organisation of plans for local printing of assessment materials and verification of print and paper quality in all languages that will be covered, while maintaining security

81. Quality of document proofing

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 10.2, PISA Technical Standards: Standard 10.3, PISA Technical Standards: Standard 10.4, Publishing (NC responsibilities)

Latent	Emerging	Established	Advanced
Authors are responsible for proofing their own documents		Document production relies on informal experience using individual expertise or idiosyncratic methods	Clear protocols exist for the identification of potential typographic errors and/or the NC has an official dictionary and manual of style

Justification: DIGEDUCA have written protocols for its assessments.

82. Availability and quality of publishing resources

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: NPM Manual: NC responsibilities, PISA Technical Standards: Standard 10.1

Latent	Emerging	Established	Advanced
NC has no existing relationship with publishers or publishing resources		NC has access to publishers with appropriate print quality and binding options but may require several firms to accommodate volume	A dedicated outsourced publisher can accommodate the print volume in the desired time span prior to data collection or NC has in-house resources to handle publishing

Justification: This is the way in which DIGEDUCA has worked up to now.

Project requirement 31. Planning of staffing and resources (technical and material) needed for coding of test booklets and contextual questionnaires and data management

83. Fidelity of response coding

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 11.3

Latent	Emerging	Established	Advanced
Response coders and managers have not received or are not acquainted with operations manual from the NPM	Coders and managers have access to the operations manual	The operations manual is used directly in training for and management of coding activities	

Justification: DIGEDUCA do not have an established protocol as they used those established by SERCE. Hence, they need to be trained in regard to coding.

Project requirement 32. Planning of the quality assurance process so that Quality Monitors visit a sample of schools during testing sessions to observe and document quality of sessions

84. Data collection monitoring

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 9.1

Latent	Emerging	Established	Advanced
There is an insufficient quantity of external monitors	Monitors do not receive the same training or same quality of training in data collection as data collectors (see PISA Technical Standards: Standard 6);	Selected monitors are also trained as data collectors	All monitors are trained as data collectors

Justification: There are no external monitors, according to DIGEDUCA's protocols.

CNA Dimension 3. Individual

Project requirement 1. Designation of NPM and establishment of National Centre

85. Adherence to protocol

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 18.2, PISA Technical Standards: Standard 17.5, PISA Technical Standards: Standard 1.2, PISA Technical Standards: Standard 9.2

Latent	Emerging	Established	Advanced
Data processing staff have no experience with large-scale data processing protocols		Data processing staff have experience carrying out specific instructions in specific contexts	Data processing staff have experience operating with a variety of protocols in different contexts

Justification: Almost every DIGEDUCA process has a written protocol for each of the different types of assessments (grades, students/teachers).

86. NPM experience with dissemination of results from large-scale assessment

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
LSA reports statistical results only	LSA reports include statistical tables and descriptions of statistical comparisons and notes where differences are substantive or significant	LSA reporting uses narratives to relate results from separate statistical results or data sets	LSA reporting uses multiple narratives to multiple audiences, referencing relevant data where appropriate

Justification: There is a long list of DIGEDUCA publications that address different audiences. However, this does not mean that results reach and impact on teachers' practices.

87. NPM regularity of communication

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM has no email or voicemail	NPM has limited access to email and/or voicemail	NPM can access and respond to email and voicemail at least once a day	NPM can process all incoming email and voicemail each day

Justification: The NPM can access and respond to email and voicemail daily and she manages her time according to priorities and needs.

88. NPM's skill in managing a team of project staff who carry out multiple tasks often needing simultaneous attention

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities, PISA Technical Standards: Standard 19.2

Latent	Emerging	Established	Advanced
NPM has no previous management experience	NPM has experience managing a few people sharing common skills and responsibilities	NPM has experience managing a large team or a team composed of individuals with diverse responsibilities and skill sets	NPM has experience in a matrix management structure where project team members belong to different administrative hierarchies

Justification: The NPM is an experienced director of DIGEDUCA with a team of 69 people.

89. Relevance of NPM expertise

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM's expertise is related to a technical or specialised field, such as data management, analysis, or classroom instruction	NPM's expertise includes specialised knowledge as well as management experience	NPM's expertise includes specialised knowledge, management experience and knowledge of government policy issues and/or international issues

Justification: The NPM has been the director of the NC since 2006 during which time she has overseen national and regional assessments successfully.

90. NPM's previous experience in planning, organising and conducting large-scale surveys

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM has experience with polling or non-intensive questionnaire-based surveys or experience implementing large-scale surveys	NPM has experience with planning some aspects of large-scale assessment surveys (e.g. testing, sampling, data collection)	NPM has experience in several aspects of large-scale surveys, including design and data collection

Justification: The NPM was responsible for ICCS and TERCE and has organised all the national assessments. She is currently responsible for SERCE too.

91. NPM's knowledge and confidence to represent the country at international meetings where aspects of the project will be discussed

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM has sufficient seniority to represent the country's interests	NPM has experience working with different stakeholder groups within country and sufficient seniority to represent country's interests	NPM has sufficient seniority to represent country's interests and knowledge of the interests of different stakeholder groups	NPM has sufficient seniority to represent the country's interests and experience interacting with different sub-national and international stakeholders

Justification: The NPM has a high position in the ministry's hierarchy and has represented her country at several international meetings, including those related to PISA for Development.

92. NPM's knowledge of, and the confidence to deal with, government agencies, school principals, parents and teachers within their own countries

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM has sufficient seniority to speak with authority on behalf of Ministry or Department	NPM has existing relationships with stakeholders within the education system	

Justification: The NPM has facilitated assessments with various stakeholders successfully and all of them show high esteem towards her.

93. NPM knowledge of language of assessments

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC3

Latent	Emerging	Established	Advanced
	The national/system coordinator or other designated team member is not fluent in the official language(s) of the assessment	The national/system coordinator has immediate access to designated team members that are fluent in the official language(s) of the assessment	The national/system coordinator is fluent in the official language(s) of the assessment

Justification: The NPM's mother tongue is Spanish (the language of assessment).

94. NPM's level of oral and written communication skills in English for meetings and communications with the OECD Secretariat and with the International Contractor

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM is sufficiently fluent in English to understand general concepts and non-technical issues	NPM is sufficiently fluent in English to understand and take a position on issues presented by OECD Secretariat or International Contractor	NPM is sufficiently fluent in English to argue a specific perspective or position and represent complex or novel issues

Justification: The NPM's mother tongue is Spanish and she can understand, read and write in English.

95. NPM's previous work experience in an education's system and experience in educational assessment

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
		NPM is familiar with the education system in a professional context	NPM has previous experience working within the education sector

Justification: The NPM has been working in the Ministry of Education at a senior level for about 10 years.

96. NPM's General computing skills (e.g. Microsoft Office suite, WebEx and secure FTPs)

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
Use of computers is primarily for email and Internet and basic document reading/reviewing functions	Uses computers for email and Internet use as well as producing and editing basic documents and presentations in standard word processors and spreadsheets	In addition to email, and Internet, uses formatting conventions, edit/review functions and other shared authorship functions in office software	Uses email, Internet and file sharing applications with versioning and complex formatting (e.g. document merges, conversion of file types) and/or works in a secure networked file sharing environment

Justification: The NPM is a proficient IT user and also has people to help her if needed.

97. English proficiency of NPM

Programme output: Identify peer-to-peer learning opportunities regarding PISA participation with other countries and development partners

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM has no English proficiency	NPM has limited English fluency (i.e. passive communication with basic productive communication)	NPM has mastery of English as a second language but operates professionally primarily in another language	NPM is fluent or operates professionally in English

Justification: The NPM can understand, read and write in English, but she is not completely fluent in the language.

Project requirement 4. Definition of criteria for stratification of school and student samples

98. Specialised skill for scientific probability sampling

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 9.3, PISA Technical Standards: Standard 16.1, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 1.3, PISA Technical Standards: Standard 1.4, PISA Technical Standards: Standard 1.5

Latent	Emerging	Established	Advanced
Survey design staff have experience with convenience sampling	Survey design staff have experience drawing simple random samples	Survey design staff have experience designing self-weighting or un-weighted complex samples (multi-stage clusters and stratification)	Survey design staff have experience designing complex samples with appropriate design weights and/or performed non-response adjustments to analysis weights

Justification: For the national assessments, DIGEDUCA drew weighted samples by clusters and in two stages with the support of an external consultant. LSNA is administered to a sample in primary grades. DIGEDUCA cannot insert values because they do not have the necessary software. DIGEDUCA personnel do not know how to use this kind of software and they also do not know how to obtain plausible values.

99. Quality of replacement sample

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.9

Latent	Emerging	Established	Advanced
There is no replacement sample in the survey design	The replacement sample only allows convenience sampling	The replacement sample is random	The replacement sample provides random assignment of matched replacement(s) for each school

Justification: The replacements for the sampled schools are randomly drawn by DIGEDUCA and matched with the replaced school. This is done with the support of an external consultant.

Project requirement 10. Communication and coordination with international contractors for the selection of the student samples in each school

100. Management of linked data files

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 12.1, PISA Technical Standards: Standard 12.5, PISA Technical Standards: Standard 16.2, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 17.5

Latent	Emerging	Established	Advanced
Data processing staff have been given instructions on data management protocols	Data processing staff have experience sorting or extracting data from files with primary keys or unique identifiers	Data processing staff have experience performing data merges using primary and foreign keys	

Justification: DIGEDUCA usually merges databases from different instruments for the same student or teacher and also different databases from the Ministry to establish the sample frame.

101. Data manipulation skill: manipulating data structures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 12.5, PISA Technical Standards: Standard 16.2, PISA Technical Standards: Standard 17.5, PISA Technical Standards: Standard 12.2, PISA Technical Standards: Standard 17.2

Latent	Emerging	Established	Advanced
	Staff have experience with single format data (e.g. Excel, SPSS) sorting records and adding/computing new variables	Staff have experience with single format data (e.g. Excel, SPSS), experience importing and exporting between proprietary formats using built-in software functions	Staff have experience constructing or parsing proprietary formatted data files and text-based data files with defined formats

Justification: DIGEDUCA has managed databases for all the assessments they have performed.

102. Data manipulation skill: fluency with statistical software (e.g. SPSS, SAS)

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 12.5, PISA Technical Standards: Standard 16.2, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 17.5, PISA Technical Standards: Standard 17.2, PISA Technical Standards: Standard 12.3

Latent	Emerging	Established	Advanced
There is no data management activity	Data management consists of simple spreadsheets and data entry	Data management is performed mainly using point-and-click menus	Data management is performed using syntax files

Justification: SPSS, jmetrik and Winsteps are used by DIGEDUCA.

Project requirement 14. Establishing a training plan with key staff of the NC to attend training sessions

103. NPM's and NC's familiarity with PISA skill ontology / framework

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NC staff have experience instructing students with a wide range of skill profiles	NC staff have experience developing programmes for salient groups of student skills	A common framework is used by NC staff for identifying skill determinants and dependencies for different learning objectives

Justification: DIGEDUCA have no experience with the PISA framework. For national assessments DIGEDUCA uses Marzano’s taxonomy.

104. NC’s understanding of item response theory

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA for Development Document, NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NC staff have experience or familiarity with statistics and classical test theory	NC staff have used item response theory in a limited context (e.g. scaling dichotomous responses)	NC staff have experience with multiple item response models (e.g. polytomous, Rasch, 2PL, 3PL)

Justification: The national centre has experience with the Rasch model but they need to enhance their knowledge in this respect.

105. NC’s test development skills

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA for Development Document, NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NC staff have no experience developing tests or test items	NC staff have experience developing tests or test items using well-defined test specifications	NC staff have used classical test theory to examine item and test difficulty and discrimination/reliability and select appropriate items	NC staff use multivariate statistics to examine test dimensionality, item bias or differential item functioning, and test information and increase the accuracy and relevance of tests

Justification: DIGEDUCA’s staff experience is limited to multiple response items.

Project requirement 28. Coordination of appropriate enhancements /adaptations /translations of instruments, manuals and guides, and field trial and verification process with international contractors

106. Fidelity of administration in local contexts

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 5.1, PISA Technical Standards: Standard 5.2, PISA Technical Standards: Standard 4.4

Latent	Emerging	Established	Advanced
Translators or staff responsible for adaptation have translated data collection protocols	Translators or staff responsible for adaptation have been trained in data collection procedures	Translators or staff responsible for adaptation have participated in data collection	Translators or staff responsible for adaptation have been trained in PISA data collection procedures

Justification: DIGEDUCA will not need translators but do need to adapt items and staff have experience of this.

107. Quality of training for data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.1

Latent	Emerging	Established	Advanced
	Data collection staff have been trained in data collection protocols	Data collection staff have participated in data collection in previous surveys or training but received no guidance or feedback regarding the effectiveness or appropriateness of method	Data collection staff have been monitored during previous or mock data collection and have received feedback on their adherence to protocols during previous data collection

Justification: DIGEDUCA staff have extensive experience with national test administration processes.

108. Adequacy of translator assessment background

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA Technical Standards: Standard 4.2

Latent	Emerging	Established	Advanced
Translators or staff responsible for adaptation have no experience translating or adapting test items	Translators or staff responsible for adaptation have background or experience with education or psychology	Translators or staff responsible for adaptation are experienced teachers	Translators or staff responsible for adaptation are also professional item writers

Justification: DIGEDUCA will not translate items but need to adapt PISA items.

109. Translator knowledge of PISA framework

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA Technical Standards: Standard 4.2

Latent	Emerging	Established	Advanced
Translators or staff responsible for adaptation have no experience or knowledge of the PISA framework		Translators or staff responsible for adaptation are knowledgeable about the PISA assessment framework	Translators or staff responsible for adaptation can reliably predict the difficulty of PISA test items

Justification: DIGEDUCA staff have not participated in PISA or used its framework.

110. Appropriateness of instrument translation and adaptation to local contexts

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 4.3, PISA Technical Standards: Standard 5.1

Latent	Emerging	Established	Advanced
	Translators have limited knowledge of common usage of testing languages	Translators have academic (i.e. foreign) knowledge of testing language usage in local contexts	Translators or staff responsible for adaptation have functional knowledge of dialects or language in different contexts

Justification: DIGEDUCA's staff will need to adapt contextual instruments instead of translating them, based on Spanish versions of these from other countries.

111. Fidelity of instrument translation and adaptation to local contexts

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 4.3, PISA Technical Standards: Standard 5.2

Latent	Emerging	Established	Advanced
Translators or staff responsible for adaptation have no experience with research		Translators or staff responsible for instrument adaptation have experience with survey research or experience with questionnaire design	Translators or staff responsible for instrument adaptation are knowledgeable about the constructs measured by PISA questionnaires (e.g. SES, school climate, engagement with learning, etc.)

Justification: DIGEDUCA's staff have experience with their own questionnaires and are developing a framework for analysing factors associated with performance. The questionnaire currently used is mostly oriented to determining socio-economic status.

Project requirement 31. Planning of staffing and resources (technical and material) needed for coding of test booklets and contextual questionnaires and data management

112. Response coding expertise

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA Technical Standards: Standard 11.1

Latent	Emerging	Established	Advanced
Response coders have no experience with student work	Response coders have experience manually scoring student work	Response coders have experience manually coding student responses in large-scale assessments	Response coders are recalibrated periodically based on results of reliability analysis (see Standard 11.3)

Justification: There are DIGEDUCA employed coders who have experience with TERCE. There are also two experts in the DIGEDUCA staff who were directly trained by the UNESCO team.

ANNEX B: TERMS OF REFERENCE

This annex includes the introduction and statement of work sections of the OECD Terms of Reference for CNA and CBP.

Introduction

OECD is seeking to enhance its Programme for International Student Assessment (PISA) to make it more relevant for developing countries. Through its PISA for development project, adapted survey instruments will be developed to allow developing countries to assess 15-year-olds' competencies in the key subjects of reading, mathematics and science, while at the same time providing the countries with an opportunity to build their capacity to manage student assessment and apply the result for system improvement.

Statement of Work

These terms of reference (ToR) cover the work to be carried out by three consultants (each hired with the same ToR) as part of the PISA for Development project. The purpose of the work is to ensure that for each of the 6 participating countries¹ the following deliverables are completed in a timely and accurate manner in order to support the effective implementing of the project:

- A. Capacity Needs Analysis (CNA) report for each participating country focusing on the institutional and the student assessment areas related to the implementation of the PISA for Development project.
- B. Capacity Building Plan (CBP) prepared for each of the participating countries that are fully costed and directly address the needs identified in the CNA for each country.

In order to produce these two deliverables the consultants will be required to complete the necessary tasks involved in coordination with the project team at the OECD and in-country with each of the participating countries. The tasks associated with each deliverable are described in the following three sub-sections.

Deliverable A: Capacity Needs Analysis reports

In the context of the project's objectives, the roles and responsibilities for National Centres (NC) and National Project Managers (NPM) and the capacity building priorities identified by the countries, the consultants will undertake a capacity needs analysis (CNA) for each of the participating countries.

The benchmark for the CNA will be the necessary capacity required in the context of the PISA for Development project, which is defined as:

- The ability of the individuals and institutions responsible for the project in each country to perform the necessary functions (as set out in the roles and responsibilities for NC and NPM), solve the likely problems that will arise during implementation and set and achieve project objectives in a sustainable manner.

Countries may desire future capacities for student assessment that go beyond this necessary ability and include competencies in, for example, item development, assessment methods and analysis of assessment data to support policy. In these cases the consultants will reflect the countries' desire in a broader statement of capacity than the one indicated at para. 5 above, but will ensure that these aspirations are rooted in a realistic appraisal of what is possible to achieve in a three year timeframe and given the capacity assets that countries are starting with.

The CNA for each country should be based on existing recent and relevant assessments of capacity for student assessment that may have been undertaken and a clear analysis of desired future capacities (as summarised above) against current capacities. The assessment should also be couched in the broader context of the participating countries' education sector policies, strategies and priorities generally and their strategies for strengthening student assessment in particular. The assessment should generate an understanding of capacity assets and needs, which in turn should lead to the formulation of a capacity building plan (CBP, Deliverable B).

The CNA is integral to the project planning and programming process, as the understanding of capacity assets and needs will serve as key inputs into the formulation of the capacity building plan. The consultants will identify the indicators to be used to measure capacity assets that will serve as a foundation for the subsequent monitoring and evaluation of capacity development. The consultants will develop an overall capacity assessment framework to facilitate the task and this will be composed of three dimensions:

- the enabling environment, particularly the Ministry of Education and other users of the results of the PISA for development project;
- organisation, particularly the National Centre and any sub-national institutions that will be involved in the project; and
- individual, especially the staff of the National Centre and related organisations, in particular the National Project Manager and his/her team.

In undertaking this task the consultants should ensure that at the outset of the activity the capacity assessment objectives and expectations of the country are clarified in the context of the aims and objectives of the PISA for development project and the resources available and that the key stakeholders are identified and engaged throughout the process. In addition, the consultants should adapt the capacity assessment framework to local needs and priorities in each country, in particular the capacity asset indicators that are used. The assessment of existing capacity levels should be transparent and the summarising and interpretation of results should be clearly communicated to key stakeholders prior to the drafting of the capacity assessment report for each country.

In preparing the capacity assessment report for each country, it will be important for the consultants to include the process and methodology adopted the stakeholders (internal/external) that were consulted, their perspectives and insights on the organisation housing the National Centre, a review and analysis of quantitative and qualitative information, and the resulting capacity development priority needs. The results should be reviewed, validated and enhanced through consultation meetings with the main stakeholders in each country and the OECD, prior to finalisation.

Deliverable B: Capacity Building Plans

On the basis of the CNA reports, the consultants should complete and agree with each partner country and OECD a CBP covering the three years of project implementation, taking care to ensure that training and capacity building opportunities are costed and scheduled in a timely and effective way. Specifically,

the consultants are tasked to design a programme that will equip the National Centre, the National Project Manager and other related actors with the capacity they require to implement the PISA for Development project successfully and, in addition, respond to particular priorities for student assessment that the participating countries identify beyond those necessary for project implementation, such as assessment methods, item development, analysis and use of data to support policy development and student assessment for curriculum reform.

Technical capacity-building, institution building and knowledge-transfer opportunities have been clearly identified as part of the implementation of the project with each of the participating countries and development partners. These opportunities include, but are not restricted to, the following:

- procedures for and verification of translations and adaptations of assessment materials (different languages and/or different adaptations of same language versions);
- sample design and selection, including population coverage, exclusions and response rates;
- field administration of the assessment and data collection;
- quality assurance of the field administration and data collection;
- marking and coding of open-ended and multiple-choice items (cognitive and questionnaire responses);
- data entry, cleaning and verification;
- scaling of results using IRT models (cognitive and contextual);
- calculation of specific indices (e.g. ESCS gradients);
- calculation, analysis and calibration of item parameters (item difficulty, point-bi-serial indices and other psychometric coefficients for possible data entry errors, translation or other problems);
- compilation of data sets for analysis (student responses and scaled scores);
- exploitation of PISA data sets for analysis (country-specific and international data sets);
- PISA Assessment Frameworks in Mathematics, Reading and Science (basis of the content, competencies and skills assessment);
- item development process (based on PISA frameworks);
- design and drafting of analytical report following PISA country report models; and
- specific technical topics: plausible variables, IRT models, conditioning, scaling, DIF (Xgender, Xcountry and Xlanguage), student and school weights.

In some cases, development partners may establish extended engagement with participating countries for technical assistance to support institutional capacity building and implementation that supports the PISA participation process and the consultants will need to take account of these contributions in the CBP.

The CBP for each country should respond to the needs identified and consist of initiatives and activities that build the foundation for capacity development as well as build momentum for the implementation of the project, the use of the results of student assessment and the achievement of the desired future capacities in a timely fashion. The CBP should also complement and, where possible, be integrated with the participating countries' broader strategies for student assessment at all levels of their education systems.

The CBP should include indicators to measure progress in the implementation of capacity development over the three years of the project. The programme should have a clear baseline and targets for each year of implementation should be established for each indicator. The process of monitoring progress should also allow the refinement of capacity development response strategies and potentially the design of new initiatives to address evolving needs. The CBP should be accurately costed in the context of the PISA for development international costs budget, the in-country project costs budget of each country and the additional development partner support that may be available in each country, beyond the project funding.

NOTE

¹ Participating countries as of February 2015 include: Ecuador, Guatemala, Senegal and Zambia. Cambodia and Paraguay are in the process of finalising participation agreements with the OECD.

PISA FOR DEVELOPMENT

Capacity Needs Analysis: Guatemala

PISA for Development is an initiative of the OECD and development partners that aims to identify how its Programme for International Student Assessment (PISA) can best support evidence-based policy making in emerging and developing economies – and contribute to the UN-led definition of global learning goals for the post-2015 agenda. In addition the project will help to build country capacity in assessment, analysis and use of results for monitoring and improvement among participating countries. Guatemala is one of six countries participating in the project, and the Ministry of Education, through the Directorate of Evaluation and Educational Research (DIGEDUCA), is responsible for the project in the country. This report presents the results of an analysis of Guatemala in respect of its capacity for managing large scale student assessments, such as PISA.

The results of this report are being used to design a capacity building plan for Guatemala that will be implemented by the OECD, its contractors, the Ministry of Education, and the Directorate of Evaluation and Educational Research (DIGEDUCA), through the PISA for Development project.