



PISA

# CAPACITY NEEDS ANALYSIS: UKRAINE



# PISA

**PISA 2018 CAPACITY NEEDS  
ANALYSIS: UKRAINE**

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

**Photo credits:** ©Jupiterimages/Getty Images

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of the source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).

## ACKNOWLEDGEMENT

This report has been produced with the support of the Polish Government, through its Ministry of Education and its Ministry of Economic Development.

This report has been prepared by Fernando Cartwright on behalf of the OECD and the Ministry of Education and Science of Ukraine as part of the Programme for International Student Assessment (PISA) programme.

The OECD PISA surveys, which take place every three years, have been designed to collect information about 15-year-old students in participating countries. PISA examines how well students are prepared to meet the challenges of the future, rather than how well they master particular curricula. The data collected during each PISA cycle are an extremely valuable source of information for researchers, policy makers, educators, parents and students. It is now recognised that the future economic and social well-being of countries is closely linked to the knowledge and skills of their populations. The internationally comparable information provided by PISA allows countries to assess how well their 15-year-old students are prepared for life in a larger context and to compare their relative strengths and weaknesses.

PISA for Development (PISA-D) is an initiative of the OECD and its 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 Education 2030 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. This report and the capacity building initiatives that will be developed for Ukraine in response to it are based on some of the tools and methodologies developed in PISA-D.



## TABLE OF CONTENTS

PISA 2018 CAPACITY NEEDS ANALYSIS: UKRAINE .....	7
1. Introduction and background .....	7
2. Methodology .....	7
2.1. Structure of the Capacity Needs Analysis framework .....	7
2.2. Using the framework .....	9
2.3. Primary document analysis .....	10
2.4. Normative definitions .....	10
2.5. Pilot analysis .....	11
2.6. Stakeholder consultations .....	12
2.7. Refinement and extension .....	12
3. Capacity development priorities .....	14
3.1. Individual .....	15
3.2. Organisation .....	15
3.3. Enabling environment .....	16
4. Next steps .....	18
REFERENCES .....	19
ANNEX: SUMMARY OF RATINGS FOR CNA DIMENSIONS .....	21
Summary of ratings for CNA dimensions .....	21
CNA Dimension 1. Enabling environment .....	21
CNA Dimension 2. Individual .....	34
CNA Dimension 3. Organisation .....	42

### Tables

Table 1.	Enabling environment ratings: Normative definitions used for each element.....	11
Table 2.	Organisational ratings: Normative definitions used for each element.....	11
Table 3.	Individual ratings: Normative definitions used for each element.....	11
Table 4.	Stakeholders interviewed by the consultant .....	13

### Figures

Figure 1.	Summary of Capacity Needs Assessment results .....	15
-----------	--	----



## PISA 2018

### CAPACITY NEEDS ANALYSIS: UKRAINE

#### 1. Introduction and background

The Programme for International Student Assessment (PISA) is a triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students. Since 2000, PISA has been testing students worldwide in the key subjects: reading, mathematics and science. The tests are a mixture of open-ended and multiple-choice questions that are organised in groups based on a passage setting out a real-life situation. A total of about 390 minutes of test items are covered, but students take different combinations of different tests. As a result, each student's test lasts only two hours.

The assessment also collects information on students' backgrounds and on how their schools are managed in an effort to identify the factors that influence student performance. The students and their school principals also answer questionnaires to provide information about the students' backgrounds, schools and learning experiences and about the broader school system and learning environment. Policy makers use PISA results to gauge the knowledge and skills of students in their own countries in comparison with those in other countries, set policy targets against measurable goals achieved by other education systems, and learn from policies and practices applied elsewhere.

In some cases where a country is new to PISA preparation for the assessment involves a three stage process supported by the OECD and its partners that includes: first, a Capacity Needs Analysis (CNA) based on PISA's technical standards; second, the development of a Capacity Building Plan (CBP) that addresses the issues identified in the CNA; and, third, a Project Implementation Plan (PIP) that integrates the international implementation timeline and additional contextual information to elaborate all the actions, resources and responsibilities that are necessary to implement the PISA 2018 cycle.

#### 2. Methodology

The development and application of the CNA framework in the case of Ukraine 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 country 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 in the country to ensure a shared understanding of the approach and the results of the needs 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 section. The framework consists (in the current working version) of 123 capacity elements that are required for successful implementation and



stakeholder use of the PISA 2018 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 section 2.2.

The organising structure of the framework is hierarchical, with each PISA 2018 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 (NC) and any sub-national institutions that are directly involved in the implementation of the project; and
- individual, encompassing the staff of the NC and related organisations, in particular the National Project Manager(s) (NPM) and her team.

Within each dimension, the elements are further organised according to the PISA programme requirement for which they are first needed. The PISA requirements roughly follow a sequence beginning with establishing the NC and ending with dissemination of results to stakeholders to support decision making:

- designation of NPM and establishment of NC;
- 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 NC 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, 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 and the relevant results from the assessment;
- production of reporting documents and media;
- dissemination of results to general audiences; and
- dissemination of results to key stakeholders.

This structure facilitates the prioritisation of different capacity elements throughout the project implementation.

In case further information is required, each element also refers to one or more primary documents 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. The framework provides a step-by-step approach to: 1) evaluating of the current capacity for implementing PISA; 2) setting development goals related to PISA 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 and indexed using the framework.

Preliminary target capacity levels are identified for each element and basic information for planning capacity building 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.

The framework and tools for using the framework are available at <https://polymetrika.org/ILSA>.

### **2.3. Primary document analysis**

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

1. PISA Technical Standards. This document details the quality standards required for successful participation in PISA.
2. PISA National Project Manager (NPM) Manual. This document outlines the sequence of activities, as well as describes the recommended resources required for PISA implementation.
3. Systems Approach for Better Education Results – 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 project 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 country'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 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 project 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 project 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 project 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 CNA framework has been employed in several country contexts 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 are selected using a snowball methodology, where a small sample of known interviewees assists in the recruitment of additional participants from among their acquaintances. This methodology is generally an effective strategy for negotiating local protocols for arranging and conducting meetings and reach experts within the education community. The entry point to the process is typically the PISA NPM (and/or implementing agency lead staff) as the point of entry. The scope then expands 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. This process has been repeated in one or more of the three dimensions of the analysis.

Each interview subject is asked detailed questions regarding the elements in the CNA framework. Specific interview formats may vary, depending the interests and knowledge of the interviewee, but they generally followed a basic structure:

Subjects are provided details about PISA and the purpose of the capacity needs assessment and the role of the interview in the development of the capacity needs assessment framework.

For each element in the preliminary framework that is relevant to their interests and experience, subjects are 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 are given the opportunity to review and comment on summaries of previously collected information).

Subjects are asked to volunteer any additional information related to any of the three CNA dimensions.

Subjects are 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***

Most consultations took the form of one-on-one or group interviews and observation of stakeholders in meetings. These interviews were scheduled by the NPM and typically attended by the NPM. In Ukraine, the NC management responsibilities are assumed by the Ukrainian Center for Educational Quality Assurance (UCEQA). The NPM is Tetiana Vakulenko.

## ***2.7. Refinement and extension***

After the information from the initial stage of interviews and document reviews was consolidated and summarised, the main findings were presented to key stakeholders for verification. Additional information that was 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.

Each capacity element is also reviewed to identify the desired capacity, if it differs from the current capacity. Specific details provided by the interview subjects about capacity development targets are used to develop the subsequent capacity building plan.

The following stakeholders provided information that has been incorporated into this report.

**Table 4. Stakeholders interviewed by the consultant**

Name	Position	Contact
Alzbeta Chmelarova	Counselor, Embassy of the Czech Republic in Ukraine	Varoslaviv Val, 34A alzbeta_chmelarova@mzv.cz
Ganna Novosad	Department Head, International Cooperation and European Integration Department, Ministry of Education and Science	10 Peremohy Avenue Kyiv 01135 Ukraine a_novosad@mon.gov.ua anja.novosad@gmail.com
Georgiy Kasyanov	The Institute of the Development of Science	
Igor Kheyfets	Senior Education Economist, World Bank	
Ihor Andreyko	Deputy Project Director, Ukrainian Standardized External Testing Initiative Alliance (USETI Alliance), American Councils for International Education	Vul. Esplanadna, 20 (6th floor), Kyiv, 01001, Ukraine iandreyko@useti.org.ua +38 044 289 3952, 289 3953, 289 3977, 290 3978 www.useti.org.ua www.americancouncils.org.ua
Inna Sovsun	First Deputy Minister, Ministry of Education and Science	10 Peremohy Avenue Kyiv 01135 Ukraine
Irine Kogut	Center analyst, CEDOS	CEDOS, st. Kropivnitskogo 4, Apt. 7
Ivan Pocuch	Ambassador, Embassy of the Czech Republic in Ukraine	Varoslaviv Val, 34A
Liliana Zyhлина	Trade Commissioner Assistant, Trade Commissioner Service, Government of Canada	Embassy of Canada 13A Kostelna St., Kyiv, Ukraine 01901 liliana.zyhlyna@international.gc.ca (380 44) 590 3153 (380 50)n330 5323
Lyubov Shchitka	Department Head, International Educational Projects Department, Ministry of Education and Science	10 Peremohy Avenue Kyiv 01135 Ukraine
Lyudmila Tatsenko	Head of Education, British Council	4/12 Hryhoria Skovorody Street Kyiv 04070 lyudmila.tatsenko@britishcouncil.org.ua +380 44 490 5600 www.britishcouncil.org.ua
Marina Malygina	Area manager (Ukraine, Belarus, Moldova), Pearson Education Ltd	marina.malgina@pearson.com +380 67 441 5321 www.pearson.com.ua
Michal Sitek	Deputy Director of the Educational Research Institute; member of the Polish PISA team	Educational Research Institute ul. Górczewska 8 01-180 Warszawa m.sitek@ibe.edu.pl
Natalia Byeskova	Deputy Head, Secondary Education Department, Ministry of Education and Science	10 Peremohy Avenue Kyiv 01135 Ukraine
Natalia Vashchaeva	Head of Statistics, Institute for Educational Analytics	UCEQA Str. Vynnychenko 5
Nataliia Dorosh	Education Lead, Microsoft	Eurasia Business Center 75 Zhylyanska Str. Kyiv, 01032, Ukraine nadorosh@microsoft.com +38 044 392 89 19 +38 067 322 35 27 www.microsoft.ua
Oksana Denysyuk	Director, Institute for Educational Analytics	UCEQA Str. Vynnychenko 5
Oleg Sharov	Head, Higher Education Department, Ministry of Education and Science	10 Peremohy Avenue Kyiv 011235
Oleksandr Lyashenko,	Branch head, academician Professor, Doctor of Sciences, National Academy of Pedagogical Science of Ukraine	Artema Str., 52-A, 04053, Ukraine o.lyashenko@gmail.com +380 44 481 37 05 +380 50 357 26 36 www.naps.gov.ua
Olena Kolesnikova	Director, Employers Union	4 Volodymyrs'ka st., office 9, Kyiv 01025, Ukraine kolesnikova@fedmet.org (044) 279 03 04
Olena Onaz	Association of School Principals	Artema Str., 52-A, 04053, Ukraine
Olga Buriachenko	Senior Specialist, International Educational Project Division Department for International Cooperation and European Integration, Ministry of Education and Science of Ukraine	10 Peremohy Avenue Kyiv 01135 Ukraine o_buriachenko@mon.gov.ua +38 044 481 32 78

Olga Strelyuk	Deputy Director, Ukrainian Center for Education Quality Assessment	UCEQA Str. Vynnychenko 5
Pavlo Hobzey,	Deputy Minister, Ministry of Education and Science	10 Peremohy Avenue Kyiv 01135 Ukraine khobzey@mon.gov.ua khobzey@ukr.net +38 (044) 23 660 08
Rodion Kolyshko	Deputy Director General, Director of Workforce Development and Corporate Social Responsibility Department, Federation of Employers of Ukraine	1, M. Kotsyubynskogo Str., Kiev, 01030, Ukraine rodionkolyshko@fru.org.ua +38 044 251 70 21 +38 050 385 20 34 www.fru.org.ua/ua
Simon Williams	Director/Cultural Attaché, Cultural Section of the British Embassy, British Council	4 Volodymyrs'ka st., office 9, Kyiv 01025, Ukraine simon.williams@britishcouncil.org.ua +380 44 490 5600 +380 50 448 3146
Tamara Palyvoda	Coordinator, United States Agency for International Development (USAID)	
Tetiana Vakulenko	NPM, Ukrainian Center for Education Quality Assessment	UCEQA Str. Vynnychenko 5 vakulenko_tetyana@ukr.net
Vadym Karandii	Director, Ukrainian Center for Education Quality Assessment	UCEQA Str. Vynnychenko 5
Valerii Boyko, Deputy Director	Ukrainian Center for Education Quality Assessment	UCEQA Str. Vynnychenko 5
Vasyl Kremen	President, National Academy of Educational Sciences of Ukraine, President of the Society "Znannya" of Ukraine, President of the Sports Students' Union of Ukraine, Full Member of the National Academy of Sciences of Ukraine, Full Member of the National Academy of Educational Sciences of Ukraine, Doctor of Sciences, (Dr. Hab.) in Philosophy, Professor	52-A, Sichovykh striltsiv Str., Kyiv, 04053, Ukraine president@naps.gov.ua +38 044 226 31 80 +38 044 481 37 01
Vitaliy Lyamichev	Deputy Director, Institute for Educational Analytics	UCEQA Str. Vynnychenko 5
Volodymyr Belimov	Senior Specialist, International Education Projects International Relations Department, Ministry of Education and Science of Ukraine	10 Peremohy Avenue Kyiv 01135 Ukraine v_belimov@mon.gov.ua +380 44 481 3278 www.mon.gov.ua
Volodymyr Bugrov	Vice-President, Kiev National University, Union of Rectors of Higher Educational Institutions of Ukraine	60, Volodymyrska St Kyiv, 01033, Ukraine bugrov@univ.kiev.ua +38 044 239 34 45
Yarema Bachynsky	Country Director, American Councils for International Education	Vul. Esplanadna, 20 (6th floor), Kyiv, 01001, Ukraine yarema@americancouncils.org.ua +38 044 289 3952, 289 3953, 289 3977, 289 3978 www.americancouncils.org.ua
Yaroslav Bolyubash	Executive Secretary, Union of Rectors of Higher Educational Institutions of Ukraine	60, Volodymyrska St Kyiv, 01033, Ukraine 200yar@ukr.net +38 044 239 31 15
Yulia Koba, Program	Analyst, Canadian Embassy Development Cooperation Section, Government of Canada	Embassy of Canada 13A Kostelna St., Kyiv, Ukraine 01901 yulia.koba@international.gc.ca +380 44 590 31 29 +380 50 381 6062 www.kyiv.gc.ca
Zheng Zhang	Senior Program Analyst, Canadian Embassy Development Cooperation Section, Government of Canada	Embassy of Canada 13A Kostelna St., Kyiv, Ukraine 01901 zheng.zhang@international.gc.ca +380 44 590 3163 www.kyiv.gc.ca

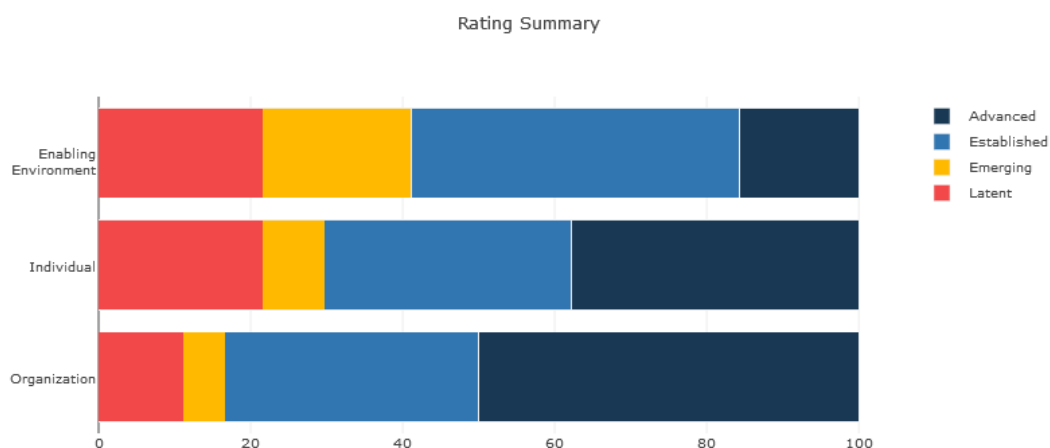
### 3. Capacity development priorities

The results of the CNA indicate that, like many other first-time PISA participants, Ukraine has adequate capacity to implement PISA and satisfy the technical standards. However, deficiencies in the

capacity of the enabling environment may limit the return on Ukraine’s investment in PISA. The risk of a poor return on investment may further limit the sustainability of the project by discouraging necessary initial investments and long-term commitment.

As illustrated in Figure 1, the main capacity deficiencies are associated with the enabling environment, while the organisational capacity is relatively strong.

**Figure 1. Summary of Capacity Needs Assessment results**



### 3.1. Individual

Deficiencies in required individual capacities tend to be the result of limited or no experience of conducting an international large-scale assessment; the national team that had previously conducted Trends in International Mathematics and Science Study (TIMSS) 2007 and TIMSS 2011 no longer work within UCEQA. However, the majority of the TIMSS team will be engaged in the PISA implementation through the Institute for Educational Analytics (where they are based) in support of sample design, data processing and analysis. Routine training workshops and resources provided by the international contractor will likely resolve many of the outstanding individual capacity shortages.

The primary outstanding need for individual capacity development is development of management expertise within UCEQA. The project management responsibilities will be shared between the NPM and other management staff within UCEQA. PISA is a large and complex project that requires contributions from many different institutions and management structures, which must in turn be co-ordinated to a rigorous international timeline and technical standards. The PISA management team will benefit from training in project management strategies that are appropriate to projects of this scope and complexity.

### 3.2. Organisation

The organisational capacity of UCEQA is well-suited to the administration and processing of PISA. The scope of PISA administration is smaller than that of the routine administration of the external independent testing. Existing transportation resources, data collection staff, data management resources and security protocols exceed the capacity required to satisfy the PISA Technical Standards. Small operational changes may be required to accommodate PISA standards and protocols.



One area that may require attention is the IT infrastructure, including both software and server configuration. UCEQA's IT resources were recently removed from operational capacity when departing IT staff rendered the system unusable as a result of a corruption criminal case involving the former IT staff. The IT staff are currently recovering mission-critical applications and infrastructure and the situation may require ongoing monitoring to ensure it satisfies the needs of PISA operations according to the PISA implementation timeline.

### **3.3. Enabling environment**

The risk of wavering political support for PISA over the complete 4-year cycle is a more realistic threat to minimum PISA implementation. Although the government has formally committed to participating in PISA 2018, Ukrainian education policy has a history of drastic reversals over short periods of time, such as the recent introduction and subsequent phasing out of grade 12 within a 2-year span. In the context of the current economic crisis in Ukraine and the discretionary annual allocation of funds to PISA implementation, there is also the possibility that the national budget will not support all years of the PISA 2018 implementation, despite best intentions. The implementation of TIMSS in 2011 met this scenario; after having completed all the requirements of the project, lack of funding shut down the project prior to completion of national reporting, effectively minimising the benefits of all the sunk project costs.

The potential unsustainability of PISA implementation is exacerbated by limitations on the capacity of the enabling environment to utilise the results of PISA and capitalise on the PISA implementation process. Although it is certainly possible for Ukraine to implement PISA in the 2018 cycle by pursuing only the minimum participation requirements, this course of action may have long lasting negative consequences for not only PISA's sustainability but also for capacity development in Ukraine's education sector.

In the current economic conditions, participation in PISA represents a large commitment of scarce funds and resources. These resources might otherwise be used to focus on a number of ongoing initiatives, including development of competency-based curriculum, rational implementation of 12-year schooling, expansion of the external independent testing to grade 9, implementation of an education management information system (EMIS), and enhancements to capacity of educational research both within government and in higher education institutions. However, the current sector plan is implementing each of these programmes independently, without a coherent framework to co-ordinate resource use or expected outcomes.

If PISA is also implemented independently, it will compete for some of the same human and physical resources as other programmes, largely because of the similarity between these programmes and PISA implementation. The potential for lack of co-ordination of common objectives threatens the implementation timelines of all projects. For example, the Institute for Educational Analytics is responsible for developing and providing the school sample frame. In the absence of complete financial and administrative school level data at the Ministry, the Institute will need to develop a short term strategy that creatively uses financial data to infer school details. At the same time, the Institute is also responsible for implementation of an EMIS. An effective EMIS will function as a school sample frame, but pursuing the development sample frame as an independent exercise does not make efficient use of the resources committed to essentially the same goal: identifying schools and developing a database to store and extract relevant information about them.

Minimum implementation of PISA risks consuming the project budget without necessarily leaving behind the infrastructure that will reduce the cost of future PISA cycles. The spectre of high-cost future cycles may discourage commitment to future PISA participation. It will be far more effective and efficient to co-ordinate PISA implementation with these existing programmes to develop enduring capacity and infrastructure.

On the other hand, even the high cost of the initial PISA cycle may be a defensible investment if the information produced by PISA is used effectively. Certainly, there is no comparable source of national information about the quality and possible determinants of skill acquisition in Ukraine. Unlike many developed countries which participate in several international assessments while also conducting national sample-based large-scale assessments and student examinations, Ukraine has only a single large-scale assessment programme. Although all grade 11 students participate in a focused assessment of literary skills, the sample of students participating in the external independent testing of mathematics, science and literature is non-equivalent to the general population of secondary students. As a result, the results cannot be used to draw inferences about regional or institutional educational effectiveness. Additionally, changes in methodology reduce the usefulness of this programme for monitoring system quality over time, and lack of rich contextual data to combine with the assessment data limits their usefulness for correlational analysis.

The advantages of PISA data are clear, but they must be analysed and results must be interpreted and communicated in order to actually be useful and to advance improved learning outcomes in the country. In this respect, the current research capacity and infrastructure are a risk to PISA's utility in Ukraine. Historically, dissemination of information about education in the public sector has been the responsibility of the Academy of Pedagogical Sciences. This role is largely focused on refinement of theory and guidelines for school management, pedagogy and development of textbooks. The Academy is a useful repository of expertise for guidance and review, but its capacity is not well-suited to the data-driven causal-comparative methods required by PISA.

There are several organisations with quantitative research capacity, including UCEQA, which will participate in the analysis and reporting of PISA results but is limited in terms of human resources. The newly-formed Institute for Educational Analytics has a clear mandate to perform and support quantitative research. However, they are at early stages of implementation in the development of data holdings to support primary data reporting and are not prepared to shoulder the entire research and analysis burden. Universities also have capacity for quantitative research, following their own independent programmes of research (loosely co-ordinated by the Rectors Union).

However, none of these organisations have communications teams that specialise in engaging media and the general public on educational issues, particularly when this engagement requires explanation of complex statistical results. For this type of engagement, the required capacity is provided by a private non-profit think tank, CEDOS, which regularly analyses data and repackages statistical results to report on educational issues in Ukraine. Unfortunately, the scope of CEDOS' engagement is limited by the uncertainty in organisational funding, which is based on ad hoc grants.

These organisations have complementary strengths and weaknesses. It is unlikely that any individual organisation can effectively bear the responsibility of analysing and reporting the PISA results to all stakeholders. However, collaboration between organisations on a common research agenda has a better chance of satisfying the information needs of decision-makers in the education sector as well as indirect stakeholders.

For example, employers are arguably the primary beneficiaries of the types of general competencies assessed in PISA. However, they are typically excluded from the development of research agendas based on secondary-level data. Development of a broad research platform could facilitate the inclusion of similar stakeholders whose interests are not often directly addressed. Discussions with the Federation of Employers and the Employers Union suggest they are eager to contribute to the research agenda and learn from the results of PISA to develop training and skill assessment programmes in the workplace. The results may also be used for planning purposes, to predict skill shortages and inform both domestic and international investment.

A major limiting factor on the maximization of Ukraine's participation in PISA is the available budget. The current budget for UCEQA is insufficient to cover the expected PISA operational costs, a shortfall that requires unbudgeted in-kind contributions from UCEQA's operational capacity to ensure successful implementation. These contributions are unsustainable over the long term, which means that additional resources are required to support any enhancements to Ukraine's participation in PISA. Fortunately, there is a large active donor community in Ukraine, including both foreign and national aid agencies, international development partners, and private sector donors. Co-ordination of the donor community is not done on a regular basis, but there is strong leadership in co-ordinating meetings and priorities by the Czech Embassy, the United States Agency for International Development (USAID) and the Ukrainian Standardized External Testing Initiative Alliance (USETI Alliance). Many of these stakeholders have expressed interest in supporting PISA implementation, but they will need to be engaged as early as possible to ensure that the capacity development plan and/or the research agenda suits their institutional mandates.

#### 4. Next steps

As noted, most deficiencies in individual and organisational capacity will be remedied by planned training workshops and familiarisation with the PISA operational documents. In addition, peer-to-peer learning from more experienced PISA countries, such as Poland, and/or specific training should be available to the NPM and other operational staff to develop the management skills required to manage PISA's complexity effectively. The NPM may require additional clerical support as part of the project management strategy.

The common theme underlying the state of the enabling context assessment results is the need for co-ordination between co-operating partners and stakeholders. At the earliest convenience, a Co-ordinating Committee should be established with the following mandate:

1. Identify opportunities to merge PISA implementation with existing programmes. In particular, allocate operational responsibilities to existing programmes with similar objectives and determine how to leverage the international PISA resources to support the existing-programme implementations. Co-operating partners may also need to identify the additional resources required to support the additional PISA operational responsibilities.
2. Identify information needs that must be addressed by the PISA research agenda to support decision making. The information need should also specify how this information should be communicated (reports, presentations, media, etc.) and who should be responsible for producing it.
3. Identify resources that may be allocated to support the enhanced PISA participation by Ukraine. If this support has specific requirements, these requirements must be clearly identified to ensure that they are satisfied in the PISA implementation.
4. Identify project milestones and agree to a meeting schedule that can be incorporated into the project implementation plan.

Membership on the committee should include senior members of stakeholder organisations who have authority to commit institutional resources. Represented organisations should include stakeholders identified in the CNA with additional development partners who may have specific interests in information technology, equity in education and assessment. The Chair of the committee should be the Deputy Minister responsible for Secondary Education, or an equivalent level of authority and expertise.

The results of the CNA and the input of the Co-ordinating Committee (as it becomes available) will be used to develop a longer term capacity building plan and project implementation plan.

## REFERENCES

- Embassy of Canada in Ukraine (2014), “The International Education Market in Ukraine”, Government of Canada.
- Kasianov, G., (2015), “UKRAINE: Education Sector Overview 1990-2014”, Institute for Education Development, Kyiv, Ukraine, <http://iro.org.ua/en/main/research/21>.
- NORRIC (2009), “A Nordic Recognition Network (NORRIC) Country Report. The Education System of Ukraine”, Nordic Recognition Network, available at: <http://norric.org/files/education-systems/Ukraine2009>.
- Poroshenko, P. (2015), Decree of the President of Ukraine No. 5/2015 “On the “Ukraine-2020” Sustainable Development Strategy”, President of Ukraine.
- Sitek, M. (2016), “Initial observations on key capacity constraints that may affect Ukraine’s ability to conduct the PISA assessment”, Warsaw.
- State Statistics Service of Ukraine (2015), “Ukraine 2014 Statistical Publication”, State Statistics Service of Ukraine, Kyiv.
- State Statistics Service Of Ukraine documents publishing, Demographic and social statistics /Education, [https://ukrstat.org/en/operativ/menu/menu\\_e/osv.htm](https://ukrstat.org/en/operativ/menu/menu_e/osv.htm).
- Vakarchuk, I.O. (2008), Ukraine Ministry of Education Order 25.12.2007 N 1171: On the external independent evaluation of educational achievements of graduates of secondary education who wish to enter higher education in 2008, <http://zakon3.rada.gov.ua/laws/show/z0005-08>.
- Zhuk, Iryna M. (ed.) (2014), “Statistical Yearbook of Ukraine for 2014”, State Statistics Service of Ukraine, Kyiv.



## ANNEX: SUMMARY OF RATINGS FOR CNA DIMENSIONS

The following Annex is a direct export of data from the PISA-D CNA application. The structure of the information is hierarchical, nesting each PISA-D needs analysis element within: 1) the three CNA dimensions (enabling environment, organisation, individual); and 2) PISA requirements (the sequential operational requirements for implementation of PISA). 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 Ukraine.

### Summary of ratings for CNA dimensions

<b>Organisation</b>	Latent	4	11%
	Emerging	2	6%
	Established	12	33%
	Advanced	17	50%
<b>Individual</b>	Latent	8	22%
	Emerging	3	8%
	Established	12	32%
	Advanced	14	38%
<b>Enabling environment</b>	Latent	11	21%
	Emerging	9	17%
	Established	23	43%
	Advanced	7	13%

### *CNA Dimension 1. Enabling environment*

*Project Requirement 1.2. Establishing a training plan with key staff of the NC to attend training sessions*

#### 1. Funding for NPM/NC for international training and meetings

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	Not rated
<b>Target status</b>	(Advanced) Dedicated funds are available for participation in international training and meetings

Justification: The government has committed funds to participation of the NPM in the PISA schedule of international meetings. However, additional training and the expansion of participation in international meetings and training is not budgeted. Travel expenses are difficult to authorise. Each approval requires consensus agreement from five independent bureaucratic offices, a process that limits the ability to respond to emergent opportunities.

## 2. Availability of NPM/NC for international training and meetings

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Time is specifically allocated to participation in and preparation for international activities
<b>Target status</b>	No target specified

Justification: UCEQA is responsible for monitoring educational quality in Ukraine and has a clear mandate that includes the implementation of PISA and reporting of results. However, the primary responsibility of UCEQA is the biannual independent educational testing (ZNO). Where resource demands conflict between PISA and ZNO, priority will be given to ZNO.

*Project Requirement 1.3. Designation of NPM and establishment of NC*

## 3. International Participation Agreement

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Participation agreement is signed and approved
<b>Target status</b>	(Established) Participation agreement is signed and approved

Justification: The participation agreement, as with all official documents, requires a certified translation prior to official approval. As a consequence, there is a time lag between an agreement in principal and the formal adoption of the agreement.

## 4. Scheduling priority given to international large-scale assessment (ILSA) activities

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) NC staff manage their own schedules and may reschedule ad hoc meeting requests
<b>Target status</b>	No target specified

Justification: All NC staff maintain their own calendars but communicate through a variety of media (e-mail, text, phone).

*Project Requirement 1.4. Compiling and confirming information on schools and students for the definition of the assessment population*

## 5. Geography and climate obstacles

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) All regions are accessible
<b>Target status</b>	No target specified

Justification: The transportation infrastructure is sound, but complexity of terrain and size of the country requires long travel times between certain regions.

## 6. Security issues with data collection

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Civil unrest makes certain regions inaccessible to data collectors
<b>Target status</b>	No target specified

Justification: Regional disputes with Russia and Russian separatists in Crimea, Donetsk and Luhansk are a significant safety concern. Support infrastructure is relatively non-existent in the major centres in Donetsk and Luhansk and ongoing military activity prevents effective data collection in these regions. Data collection in Crimea is precluded by the Russian military and political annexation.

## 7. Effect of political climate on implementation

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Political climate does not adversely affect the project
<b>Target status</b>	(Advanced) All relevant political bodies (government and opposition) actively support the project

Justification: Many key stakeholder groups are aware of PISA and perceive it to be useful in terms of increasing international co-operation and providing a more competency-based review of the quality of learning in Ukraine. However, the dynamic nature of politics and economics in Ukraine tend to focus attention on more immediate issues and implementing existing political agendas. Most stakeholders have not incorporated PISA implementation, data or analysis results into their existing agendas. As a result, the existing support does not manifest into advocacy for the project.

## 8. Scheduling conflicts due to local political activities

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Political schedule does not adversely affect the project
<b>Target status</b>	No target specified

Justification: The political situation in Ukraine is not stable relative to many other democratic countries, in that elections tend to be frequent and result in drastic policy changes. However, the key agents responsible for implementing PISA are able to function in this environment, and the resources used for political activities do not interfere with the project implementation.

*Project Requirement 1.5. 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*

## 9. Priority of competency-based foundational skills (literacy, numeracy, reasoning, problem solving) in vocational education

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Emerging) Trade/vocational training sector defines foundational skill requisites for occupational training
<b>Target status</b>	(Advanced) Foundational skills are supported by employers or vocational workplace training

Justification: Vocational education is the responsibility of the secondary education system. The curriculum describes some minimum levels of literacy and numeracy, but the primary focus is on instruction of how to perform occupation-specific tasks. Large employers take a similar approach to workplace training. There is no definition of a competency framework that facilitates migration of workers between occupations or educational streams.



## 10. Priority of competency-based foundation skills (literacy, numeracy, reasoning, problem solving) in academic education

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Emerging) K-12 curriculum uses competency-based implementation of curriculum
<b>Target status</b>	(Emerging) Development of foundational skills are supported in public policies or private initiatives fostering lifelong learning

**Justification:** The current Strategy 20/20 for the education sector prioritises instruction and assessment competencies i.e. the use of skills learned in an academic setting to perform tasks in the real world or novel situations. However, there are few curriculum or instructional resources available to support this implementation and there is no overarching cognitive framework to define competencies. As a result, the operationalisation of competencies is often task-specific rather than cognition-specific, which risks replacing instrumental learning of academic knowledge with instrumental learning of task-oriented knowledge.

*Project Requirement 1.8. Designation of NPM and establishment of NC*

## 11. Efficiency of communication protocols

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) NPM can engage most stakeholders as a peer
<b>Target status</b>	No target specified

**Justification:** The NPM communicates directly with a variety of stakeholders, including the Deputy Minister level within government and the CEO level in the private sector, as well as with operational staff in different bureaucratic hierarchies.

## 12. Bureaucratic efficiency

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Communication channels allow direct institutional access between NC and stakeholders
<b>Target status</b>	No target specified

**Justification:** Operational communication is typically direct between individuals through e-mail and telephone. Formal agreements that require allocation of budget and resources across institutions require a longer process involving written communication and approval from higher administrative levels.

## 13. Communication with stakeholders

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) NC interacts with a network of contacts representing each stakeholder organisation
<b>Target status</b>	(Advanced) NC has regular meetings or accessible forums with stakeholders for two-way discussions

**Justification:** Although the NC has communications channels and shared interests with a variety other organisations, there is no schedule for regular meetings and co-ordination of activities. Multilateral sector-level meetings do occur, particularly when involving international stakeholders, but co-ordination of resources and activities tends to be bilateral.

*Project Requirement 1.9. Communication and co-ordination with schools that will participate in the assessment*

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

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No knowledge of external LSA or assume that LSA is used to evaluate specific student or school performance
<b>Target status</b>	(Established) Recognise a clear washback effect from the results of LSA and the policies and practices affecting learning

Justification: School teachers, principals, students and parents are not aware of LSA beyond the ZNO (External Independent Testing/Zovnishne nezalezhne otsinyuvannya), which is used to evaluate individuals and, to a lesser extent, facilitate comparisons between schools. Historically high levels of corruption in secondary-level assessment are associated with the use of results at individual levels. To prevent these factors from influence data from both the cognitive and contextual instruments, the NC will need to communicate the purpose of sample-based LSA and how the results will be used.

*Project Requirement 1.10. Compiling and confirming information on schools and students for the definition of the assessment population*

#### 15. Reliability of student attendance

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Student attendance is regular but without formal monitoring
<b>Target status</b>	No target specified

Justification: Schools do not report absenteeism as a major problem. However, there is no data source to monitor this issue at the student or school level.

#### 16. Quality of school sample frame

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No EMIS or equivalent to provide a school sampling frame
<b>Target status</b>	(Advanced) EMIS is updated annually with an accurate frame

Justification: There is no active EMIS. Education-sector data are compiled through a multi-step process: 1) school report aggregate level data to raions; 2) raions aggregate the school data and send to oblasts; 3) oblasts aggregate the raions data and send to the Ministry. As a result, the Ministry does not even have the data that would be used to populate an EMIS. A private EMIS software solution has been piloted, but it has not yet been implemented under government control on secure servers.

## 17. Level of detail in administrative student data

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No student data (e.g. grade, age) is available for individual schools
<b>Target status</b>	(Established) Students are identifiable in central records by name and school

Justification: Lack of EMIS and permanent student identification prevents centralised storage of student-level data.

*Project Requirement 1.11. Definition of criteria for stratification of school and student samples*

## 18. Stakeholder use of LSA data

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Stakeholders commission specialised reports
<b>Target status</b>	(Advanced) Stakeholders directly access data for specific information

Justification: Different stakeholders request specific analyses or make use of publicly available reports from the UCEQA. These results may be subsequently repackaged or synthesised into other analyses or reports.

*Project Requirement 1.12. 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*

## 19. Breadth of stakeholder engagement

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Multiple stakeholders representing government interests are engaged
<b>Target status</b>	(Advanced) Multiple stakeholders are engaged including non-government or indirect educational stakeholders

Justification: Primary engagement is within the Ministry of Education, but the education sector is very influential and has a high profile in Ukrainian media, politics and policy. Interest from non-government is largely restricted to international co-operating partners in education. Private sector interest is limited largely because there is no perceived immediate use of what PISA produces or facilitates.

## 20. Engagement of private sector

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No engagement of private sector
<b>Target status</b>	(Established) Federations of employers, Chamber of Commerce or equivalent use results for planning and advocacy

Justification: Employers currently do not use LSA results or data for planning or advocacy. There is interest from employers in the competency-based approach of skill assessment in PISA as well as the contextual information, as both would provide some insight into the pool of human capital entering the labour market and occupation-specific training.

## 21. Engagement of international stakeholders

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) International donors and co-operating partners use results for monitoring purposes or to rationalise policy support and development
<b>Target status</b>	(Advanced) Foreign private sector investors use results to inform decision making

**Justification:** All international co-operating partners support PISA and anticipate using the data for a variety of monitoring and evaluation activities. One of the challenges with using LSA data to monitor effectiveness of policy in Ukraine is the frequency of major changes; few policies are long-lived enough to make an observable impact in results. The availability of contextual data with the PISA cognitive assessment results will facilitate better evaluations of different policy options. Ukrainian assessment results currently do not have credibility internationally, and international skill assessments are typically used only at the individual level for entrance to foreign educational institutions. PISA data will provide a necessary internationally comparable description of skills, behaviour and attitudes for public and private sector stakeholders.

## 22. Co-ordination of international educational reporting

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No active participation in systematic international reporting
<b>Target status</b>	(Advanced) Regular participation in multilateral international research

**Justification:** Currently, Ukraine does not contribute to international systems of indicators in education. However, the newly-formed Institute for Educational Analytics is preparing a data management infrastructure to contribute to Eurostat and the OECD.

*Project Requirement 1.13. Stipulation of languages in which assessment materials will need to be available*

## 23. Information on student language of instruction

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No student records are available
<b>Target status</b>	(Advanced) Student files contain language of instruction for each subject

**Justification:** There is no EMIS or comparable set of records on language of instruction of individual students.

## 24. Information on school language of instruction

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No EMIS and language of instruction cannot be inferred accurately by school geography
<b>Target status</b>	(Advanced) School information contains predominant language of instruction

**Justification:** Aggregate school records do not maintain language of instruction for individual schools. There is only one official language of instruction (Ukrainian); however, the de facto practice in some individual classrooms depending on the composition of students and teachers is to also or primarily use the predominant regional language (Russian or Crimean Tatar).

*Project Requirement 1.14. Designation of NPM and establishment of NC*

## 25. Experience in planning, organising and conducting international assessments

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The country/system has participated in at least one ILSA in the last 10 years
<b>Target status</b>	(Advanced) The country/system has participated in two or more ILSA in the last 10 years

**Justification:** Ukraine participated in TIMSS 2007 and TIMSS 2011. Participation in TIMSS 2011 was incomplete; although Ukraine satisfied all the requirements for implementation and is expected to have satisfied any data quality requirements, the country did not release the final results in Ukraine. The reason for withdrawal was because of a failure to pay international participation fees due to lack of budget rather than any factors related to the results. Ukraine voluntarily withdrew after making the decision to not pay the fees; Ukraine's results are still included in the International Association for the Evaluation of Educational Achievement (IEA) international report.

## 26. Accountability of LSA structures

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The national large-scale assessment (NLSA) office is accountable to a clearly recognised body
<b>Target status</b>	No target specified

**Justification:** UCEQA is a department embedded within hierarchy of the Ministry of Education. The activities of the UCEQA are independent of the majority of the Ministry's activities, and UCEQA operates with a high degree of public transparency, but there is no independent technical oversight. Consultants may be used for specific tasks or to inform decisions, but the Director of UCEQA is responsible to the Minister of Education, which may subordinate objective technical considerations to pragmatic political considerations.

## 27. Breadth of NC expertise

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The NC office is adequately staffed or has contractual arrangements in place to carry out the LSA effectively, with minimal issues
<b>Target status</b>	(Advanced) The NC office is adequately staffed to carry out the LSA effectively, with no issues

**Justification:** The ZNO is managed effectively by UCEQA, but there is inadequate technical scientific support within the project to properly support decision making about operations or reporting based on statistical or psychometric evidence. This vulnerability makes the implementation dependent on external consultants who may not be continuously engaged in the project or have adequate expertise.

## 28. Capacity of NC

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The NC has arrangements with partner institutions or service providers to supply the necessary technical capacity or resources to carry out the LSA
<b>Target status</b>	(Advanced) The NC is adequately staffed to carry out the LSA effectively with no issues

**Justification:** The NC itself does not have capacity to support sampling and adequately analyse and disseminate the PISA results. The Institute for Educational Analytics will provide data infrastructure and statistical support. Reporting and dissemination will require co-operation from a variety of

different stakeholder groups, including the Academy of Pedagogical Sciences, CEDOS, Higher Education institutions (Rectors Union), Employers, and other co-operating partners.

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

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The country/system offers some opportunities to prepare individuals for work on the NLSA
<b>Target status</b>	No target specified

Justification: There are a variety of avenues that allow interested parties to learn about and work in LSA, including academia, political engagement and routine employment within the public sector. LSA in Ukraine attempts to be transparent and makes all documentation publicly available through the internet.

*Project Requirement 1.15. 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*

### 30. Contributions to ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) The country/system has not contributed new knowledge on ILSA
<b>Target status</b>	No target specified

Justification: Ukraine has not participated extensively in ILSA and is interested mainly in learning from the experiences of other countries and international organisations.

*Project Requirement 1.16. Designation of NPM and establishment of NC*

### 31. Data quality of ILSA

<b>Programme output</b>	Identify peer-to-peer learning opportunities regarding ILSA participation with other countries and development partners
<b>Current status</b>	(Established) The country/system met all technical standards required to have its data presented in the main displays of the international report
<b>Target status</b>	(Established) The country/system met all technical standards required to have its data presented in the main displays of the international report

Justification: Previous participation in TIMSS satisfied the technical quality standards to report Ukrainian results. Poland is offering peer-to-peer learning support.

*Project Requirement 1.17. Definition of criteria for stratification of school and student samples*

### 32. Use of ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Results from the ILSA are used in a limited way to inform decision making in the country/system
<b>Target status</b>	(Advanced) Results from the ILSA are used in a variety of ways to inform decision making in the country/system

Justification: National-level results from TIMSS 2007 prompted discussion about issues in education, particularly related to curriculum and instruction, which remains relatively focused on memorisation

and recall of facts. However, the results of TIMSS are not used to evaluate specific policy alternatives, and the data are not used to support a research agenda within Ukraine to address other issues relevant to the education sector.

*Project Requirement 1.18. 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*

### 33. Dissemination of ILSA results

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Country/system-specific results and information are disseminated irregularly in the country/system
<b>Target status</b>	(Advanced) Country/system-specific results and information are regularly and widely disseminated in the country/system

Justification: Irregular participation in ILSA limits the regularity of the dissemination of results. Dissemination of TIMSS 2007 results largely focused on the international public report. Excerpts or results from the public report were also used in presentations. Despite Ukraine's inclusion in the international TIMSS 2011 report, there has been no dissemination of the results in Ukraine. The absence of discourse around the results is such that the perception in Ukraine is that Ukraine had dropped out of TIMSS 2011; however, the results are included in the international report without annotation.

### 34. Feedback from ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) Products to provide feedback to schools and educators about the ILSA results are not made available
<b>Target status</b>	(Advanced) Feedback to schools and educators about ILSA results are systematically made available through a communication strategy

Justification: TIMSS results depended on voluntary engagement of lower-level stakeholders to access public reports or references to the results in other documents.

### 35. Media coverage of ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) There is limited media coverage of the ILSA results
<b>Target status</b>	(Advanced) There is wide media coverage of the ILSA results

Justification: Media coverage of TIMSS results is effectively non-existent within Ukraine.

### 36. Positive washback of ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) It is not clear that decisions based on ILSA results have had a positive impact on students' achievement levels
<b>Target status</b>	(Advanced) Decisions based on the ILSA results have had a positive impact on students' achievement levels

Justification: There are no specific decisions that are clearly linked to TIMSS results that have been monitored and evaluated.

*Project Requirement 1.19. Definition of criteria for stratification of school and student samples*

## 37. Clear statement of purpose for participation in ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) There is a formal policy document that addresses participation in ILSA
<b>Target status</b>	No target specified

Justification: Participation in PISA is one of the 25 key performance indicators in the government decree "On the Strategy for Sustainable Development Ukraine – 2020" which was signed in January 2015.

*Project Requirement 1.20. 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*

## 38. Setting clear policies for ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The policy document is available to the public
<b>Target status</b>	No target specified

Justification: The Ukraine 2020 Strategy document is publicly available on the internet and on request.

*Project Requirement 1.21. Designation of NPM and establishment of NC*

## 39. Having regular funding for ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) There is regular funding allocated at discretion of government
<b>Target status</b>	No target specified

Justification: Funding for PISA is committed annually through the national budget. The National Reforms Council Meeting on 5 October, 2015 decided, in Reform no. 12, Education and Science, to fund PISA participation. On 1 November, 2015, the Ministry of Education addressed to the Ministry of Finance an official request. The Ministry of Finance confirmed financing to provide funding for Ukraine's participation in the PISA research in 2018 (EUR 180 000 Euros for 4 years). There is no separate line item in the national budget. The PISA budget is allocated to the Ministry and then to UCEQA, which is responsible for disbursements and operational costs.

## 40. Adequacy of ILSA funding

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Funding covers some core activities of the ILSA
<b>Target status</b>	(Established) Funding covers all core activities of the ILSA

Justification: Funding does not completely cover salary costs of NC staff or operational costs of the project implementation. Uncovered costs are expected to be covered from the operational budget of UCEQA or through in-kind commitment of operational resources.



## 41. ILSA research and development funding

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) Funding does not cover research and development activities
<b>Target status</b>	(Advanced) Funding covers research and development activities

Justification: No research and development activities are supported in the budget.

*Project Requirement 1.22. Definition of criteria for stratification of school and student samples*

## 42. Clear statement of purpose for participation in NLSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) There is a formal policy document that authorises the NLSA
<b>Target status</b>	No target specified

Justification: The ZNO was introduced in Ukraine in 2008 as part of the introduction of a sweeping set of anti-corruption reforms in Ministry of Education and Science of Ukraine Order 25.12.2007 N 1171.

## 43. Transparent policy for NLSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The policy document is available to the public
<b>Target status</b>	No target specified

Justification: The Ministry Order is available online in its original form, endorsed by the Ministry of Justice (<http://zakon3.rada.gov.ua/laws/show/z0005-08>).

*Project Requirement 1.23. Designation of NPM and establishment of NC*

## 44. Stability of NLSA programme

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The NLSA is a stable programme that has been operating regularly
<b>Target status</b>	No target specified

Justification: The NLSA collects data at least twice a year.

*Project Requirement 1.24. NPM develops a national dissemination plan of their country's participation in PISA and the relevant results from the pilot*

## 45. Expectations for NLSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) There is a written NLSA plan for the coming years
<b>Target status</b>	No target specified

Justification: The Ministerial Order has no expiration date. However, there are many conceptual changes to the content and scaling of results each year, which limits the ongoing effectiveness of the tool for monitoring and quality assurance beyond the immediate goal of anti-corruption.

## 46. Having strong public engagement for NLSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Most stakeholders groups support the NLSA
<b>Target status</b>	No target specified

Justification: Introduction of ZNO is universally seen as an effective anti-corruption reform. However, other uses are limited. Changes to methodology and content limit the ability of higher education institutions to compare quality of graduates between tests, and the development of the tests as a university entrance criterion rather than a secondary completion criterion limit the relevance of the data to other stakeholders at the secondary level.

*Project Requirement 1.25. Designation of NPM and establishment of NC*

## 47. Having regular funding for NLSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) There is regular funding allocated to the NLSA
<b>Target status</b>	No target specified

Justification: UCEQA's core operations are fully funded in the national budget.

## 48. Adequacy of NLSA funding

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Funding covers all core NLSA activities: design, administration, analysis and reporting
<b>Target status</b>	No target specified

Justification: Funding covers all operational tasks.

## 49. NLSA research and development funding

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Funding covers regular review but not active research
<b>Target status</b>	(Advanced) Funding covers research and development activities

Justification: Changes to methodology tend to be evolutionary in response to emergent issues and not part of a strategic development plan. Rationale for developments is provided by external consultants rather than guided by ongoing research from within UCEQA. Consultant costs are allocated at the discretion of the UCEQA or paid for by co-operating partners (e.g. USETI).

## 50. Autonomy of NLSA structures

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Political considerations regularly obstruct technical or scientific priorities
<b>Target status</b>	(Established) Political considerations sometimes obstruct technical or scientific considerations

Justification: Because UCEQA is not an independent body, technical considerations are secondary to the political or pragmatic priorities of the Ministry.

*CNA Dimension 2. Individual*

## 51. Availability of NPM

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Sufficient person-time is allocated to ILSA with at least one full-time (non-clerical) NC staff member
<b>Target status</b>	No target specified

Justification: The NPM is a full-time position with no additional operational responsibilities.

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

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Reporting restricted to description of statistical tables
<b>Target status</b>	(Advanced) Reporting using multiple narratives to multiple audiences, referencing relevant data where appropriate

Justification: Results of statistics are reported in tables and figures. Where prose or text is used, the text is a direct description of the context of a specific table of results or set of descriptive statistics.

## 53. NPM regularity of communication

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) NPM can process all incoming e-mail and voicemail each day
<b>Target status</b>	No target specified

Justification: The NPM handles her own correspondence rapidly and completely.

## 54. Relevance of NPM policy expertise

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Expertise includes specialised knowledge of government policy issues and/or international issues in educational policy research
<b>Target status</b>	No target specified

Justification: The NPM has an academic research background in education, has international experience, and in-depth knowledge of the national and international issues in education.

## 55. Relevance of NPM technical or scientific expertise

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Expertise includes specialised knowledge of data management, statistical analysis, school system management or other field(s) similarly relevant to LSA
<b>Target status</b>	No target specified

## 56. Previous experience in planning, organising and conducting large-scale surveys

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Experience in several aspects of large-scale surveys, including design and data collection
<b>Target status</b>	No target specified

Justification: The NPM is a specialist in educational assessment and has worked on survey research and assessment design.

*Project Requirement 2.2. Representation of country/system on PISA Governing Board*

57. Sufficient authority and confidence to represent the country at international meetings where aspects of the project will be discussed

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No PISA Governing Board (PGB) participation or PGB member is required to confirm all statements with management hierarchy before contributing to international discussions
<b>Target status</b>	(Established) PGB member can exercise own discretion in representing country priorities and interests

Justification: A PGB member has not yet been designated.

*Project Requirement 2.3. Designation of NPM and establishment of NC*

58. Sufficient authority and confidence to represent the country at international meetings where aspects of the project will be discussed

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) NPM prefers to restrict contributions at international meetings to pre-approved statements and/or publicly held country positions
<b>Target status</b>	No target specified

Justification: The NPM does not have the authority to respond on to issues raised in an international context in cases where the response may deviate from a previously-held position of Ukraine's Ministry of Education with respect to participation or implementation.

59. Sufficient experience to represent the country's stakeholders at international meetings where aspects of the project will be discussed

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Detailed knowledge of interests of a variety of (sub)national stakeholder groups
<b>Target status</b>	(Advanced) Direct experience interacting with different sub-national and/or international stakeholders

Justification: The NPM interacts directly with a variety of stakeholder groups within Ukraine and is familiar with the relationships and potential conflicts between different stakeholders.

60. Knowledge of, and the confidence to deal with government agencies, school principals, parents and teachers within their own countries

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) NPM has existing relationships with stakeholders within the education system
<b>Target status</b>	No target specified

Justification: The NPM has worked with different stakeholders in the education system, but may require additional introductions to a wider breadth beyond those whose primary interest is educational assessment.

61. A sufficient level of oral and written communication skills in English as all meetings and communications with the OECD Secretariat and with the International Contractor will be in English

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Sufficiently fluent in English to argue a specific perspective or position and represent complex or novel issues
<b>Target status</b>	No target specified

Justification: The NPM speaks English fluently and excels as a translator for technical and scientific issues.

62. Previous work experience in an education system and experience in educational assessment (desirable)

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Previous experience working within the education sector
<b>Target status</b>	No target specified

Justification: The NPM's background is in educational testing and development of novel large-scale assessments.

63. General computing skills (e.g. Microsoft Office suite, WebEx and secure FTPs)

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Use file sharing applications with versioning and complex formatting (e.g. document merges, conversion of file types)
<b>Target status</b>	No target specified

Justification: All NC staff are competent with modern computing environments, document editing and file sharing.

*Project Requirement 2.4. Establishing a training plan with key staff of the NC to attend training sessions*

64. Familiarity with ILSA skill ontology / framework

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Established) Experience developing programmes for salient groups of student skills
<b>Target status</b>	No target specified

Justification: The NPM has developed competency-based skill assessments for specific target population.

*Project Requirement 2.5. Designation of NPM and establishment of NC*

65. English proficiency

<b>Programme output</b>	Identify peer-to-peer learning opportunities regarding ILSA participation with other countries and development partners
<b>Current status</b>	(Advanced) Fluent or operate professionally in English
<b>Target status</b>	No target specified

Justification: The NPM is fluent in English and can perform simultaneous translation between English and Ukrainian.

*Project Requirement 2.6. Establishing a training plan with key staff of the NC to attend training sessions*

## 66. Item response theory

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Established) Have used item response theory in limited context (e.g. scaling dichotomous responses)
<b>Target status</b>	(Advanced) Experience with multiple item response models (e.g. polytomous, Rasch, 2PL, 3PL)

Justification: Item response theory is used in a limited capacity for research only. There are no high-stakes uses of item response theory to support reporting or scaling of test results.

## 67. Test development skills

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Advanced) Use multivariate statistics to examine test dimensionality, item bias or differential item functioning, and test information
<b>Target status</b>	No target specified

Justification: Item analysis and differential item functioning analysis are performed as needed as part of the cycle of instrument validation. Analyses are manual and exploratory; there is no predefined analysis programme that is automatically applied to incoming test data.

*Project Requirement 2.7. Designation of NPM and establishment of NC*

## 68. Adherence to protocol

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Experience operating within a variety of protocols in different contexts
<b>Target status</b>	No target specified

Justification: The NC and regional centres directly responsible for data collection are competent and experienced in the UCEQA protocols. The UCEQA staff previously responsible for implementing TIMSS have left UCEQA and are now predominantly employed within the Institute for Educational Analytics. However, they remain affiliated with the PISA programme as a co-operating agency.

*Project Requirement 2.8. Definition of criteria for stratification of school and student samples*

## 69. Specialised skill for scientific probability sampling

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) Convenience sampling
<b>Target status</b>	(Advanced) Designed complex samples and appropriate design weights or performed non-response adjustments to analysis weights

Justification: Sampling for research purposes in the education sector typically use geography-based convenience samples. Probabilistic samples are not used due to the absence of a national school sample frame.

*Project Requirement 2.9. Communication and co-ordination with schools that will participate in the assessment*

70. Sufficiency of data collection staff

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) There is a sufficient number of qualified data collectors for all sites
<b>Target status</b>	No target specified

Justification: Data collectors are provided by the regional education centres in each oblast (district).

*Project Requirement 2.10. Definition of criteria for stratification of school and student samples*

71. Quality of replacement sample

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No replacement sample
<b>Target status</b>	(Advanced) Replacement sample provides random assignment of matched replacement(s) for each school

Justification: The LSA is based on self-selection and other surveys do not use probability sampling.

*Project Requirement 2.11. Co-ordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with international contractors*

72. Availability of document formatting and print specifications (manual of style)

<b>Programme output</b>	Enhanced contextual questionnaires and data collection instruments
<b>Current status</b>	(Latent) Authors choose formats for their own documents or default word processing settings are used
<b>Target status</b>	(Established) Document print and specifications are maintained on servers accessible to all NC staff

Justification: Although an institutional manual of style is available for government documents, authors tend to simply leave the document format settings as the default values of the word processing software they use.

*Project Requirement 2.12. Planning of staffing and resources (technical and material) needed for coding of test booklets and contextual questionnaires and data management*

73. Response coding expertise

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Established) Response coders have experience manually coding student responses in large-scale assessments
<b>Target status</b>	(Advanced) Response coders are recalibrated periodically based on results of reliability analysis (see Standard 11.3)

Justification: The ZNO includes open-ended response items, which require manual coding and verification.

## 74. Fidelity of response coding

<b>Programme output</b>	Enhanced contextual questionnaires and data collection instruments
<b>Current status</b>	(Latent) Coders and managers have not received or are not acquainted with operations manual from NPM
<b>Target status</b>	(Advanced) Manual is used directly in training for and management of coding activities

Justification: No operational staff have yet been trained with the PISA operations manuals.

*Project Requirement 2.13. Communication and co-ordination with international contractors for the selection of the student samples in each school*

## 75. Management of linked data files

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Experience performing data merges using primary and foreign keys
<b>Target status</b>	No target specified

Justification: IT staff within UCEQA and the Institute for Educational Analytics routinely perform database operations.

## 76. Data manipulation skill: manipulating data structures

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Staff have experience with single format data (e.g. Excel , SPSS), experience importing and exporting between proprietary formats using built-in software functions
<b>Target status</b>	No target specified

Justification: Data formats tend to follow widely used software packages, and conversion between formats uses built-in conversion and interoperability tools.

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

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Data management is performed using syntax files
<b>Target status</b>	No target specified

Justification: In response to a staff-dependent IT vulnerability, all data management routines are now handled using stored syntax files. The current operational policy is that no routine data management operations will be dependent on a specific individual.

*Project Requirement 2.14. Designation of NPM and establishment of NC*

## 78. Skill in managing a team of project staff who carry out multiple tasks often needing simultaneous attention

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No previous management experience
<b>Target status</b>	(Advanced) Experience in a matrix management structure, where project team members belong to different administrative hierarchies

Justification: The NPM does not have prior experience managing a large project.



*Project Requirement 2.15. Co-ordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with international contractors*

## 79. Adequacy of translator assessment background

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Established) Translators are experienced teachers or specialise in translation of education-related material
<b>Target status</b>	No target specified

Justification: The translators specialise in the education and social sciences.

## 80. Translator knowledge of ILSA conceptual framework

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Latent) No experience of knowledge of ILSA conceptual framework
<b>Target status</b>	(Established) Translators or staff responsible for adaptation are knowledgeable about the ILSA conceptual framework

## 81. Appropriateness of instrument translation and adaptation to local contexts

<b>Programme output</b>	Enhanced contextual questionnaires and data collection instruments
<b>Current status</b>	(Advanced) Translators or staff responsible for adaptation have functional knowledge of dialects or language in different contexts
<b>Target status</b>	No target specified

Justification: The translators are competent in both academic and colloquial language. There are no distinctive regional dialects that PISA must accommodate.

## 82. Fidelity of instrument translation and adaptation to local contexts

<b>Programme output</b>	Enhanced contextual questionnaires and data collection instruments
<b>Current status</b>	(Established) Translators or staff responsible for instrument adaptation have experience with survey research or equivalent training in social/psychological measurement
<b>Target status</b>	(Advanced) Translators or staff responsible for instrument adaption are knowledgeable about the constructs measured by ILSA questionnaires (e.g. ISEI, ESCS school climate, engagement with learning, etc.)

Justification: The translators have previously translated material for educational research and assessment. The NPM is also a competent translator with sufficient technical and linguistic knowledge to review the translated material for accuracy.

## 83. Fidelity of administration in local contexts

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) Translators or staff responsible for adaptation have translated data collection protocols
<b>Target status</b>	(Advanced) Translators or staff responsible for adaptation have been trained in ILSA data collection procedures

Justification: None of the translator (beyond the NPM) have experience with operations or have been trained in survey or assessment operations.

## 84. Quality of training for data collection

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) 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
<b>Target status</b>	No target specified

Justification: Data collector training at UCEQA provides observation and feedback to prospective data collectors.

## 85. Effectiveness of training for data collection

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Training is conducted in group settings with role-playing or interaction
<b>Target status</b>	No target specified

Justification: The standard practice in UCEQA for training data collectors involves group training with role-playing as both test administrators and test takers.

*Project Requirement 2.16. 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*

## 86. Correct sequencing of administration of national options

<b>Programme output</b>	Enhanced contextual questionnaires and data collection instruments
<b>Current status</b>	(Emerging) Data collection staff have experience with non-ILSA administration protocols
<b>Target status</b>	(Advanced) ILSA administration protocols are sequentially scripted and bound and provided with the testing materials during and after training

Justification: Effectively all data collectors will only have experience administering ZNO. Although some may have previously administered TIMSS, there is no expectation that such experience will be widespread.

*Project Requirement 2.17. Designation of NPM and establishment of NC*

## 87. NPM knowledge of language of assessments

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The national/system co-ordinator is fluent in the official language of the assessment
<b>Target status</b>	No target specified

Justification: The NPM is fluent in Ukrainian.

**CNA Dimension 3. Organisation**

## 88. NC co-ordination

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Shared agendas enable regular and ad hoc scheduling of meetings
<b>Target status</b>	No target specified

Justification: NC staff are aware of and can work around the schedules of their colleagues.

## 89. Engagement of clerical/administrative support

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) Clerical support is not involved in correspondence
<b>Target status</b>	No target specified

Justification: There is minimal clerical support. All correspondence with stakeholders is managed directly by the NPM.

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

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Fully networked environment with universal access to high bandwidth internet and e-mail
<b>Target status</b>	No target specified

Justification: UCEQA is fully networked. Broadband internet in Ukraine is fast, with high penetration and wide availability.

## 91. Computing environment

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Personal or dedicated computers with standard software and access to the workplace network
<b>Target status</b>	No target specified

Justification: All permanent offices have networked computers, which are maintained by IT staff, but many NC staff use personal laptops. All computers have standard software (e.g. MS Office).

*Project Requirement 3.2. Item and test development infrastructure*

## 92. Adequacy of item development software

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Advanced) Collaboration involves sharing item content using a secure server application
<b>Target status</b>	No target specified

Justification: Item development and storage uses a secure server application managed by the IT staff of UCEQA. Access to the system is granted or revoked at the instructions of the UCEQA Director.

## 93. Adequacy of test development software

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Established) Test development uses specialised software that produces administration and response capture documents for paper-based administration
<b>Target status</b>	(Advanced) Test development uses secure server application that facilitates administration and response capture for paper and computer-based administration

Justification: The test development software produces print-ready booklets and response forms for paper-based test administration. The response forms facilitate computer-assisted data capture and scoring.

## 94. Flexibility of item development software

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Established) Item banking software allows a variety of response types but may restrict administration formats or complexity of scoring information
<b>Target status</b>	(Advanced) Item banking software allows unlimited response types for paper and computer-based administration and stores appropriate scoring information

Justification: The item banking software allows for a variety of paper-based item response types, include simple multiple choice, complex multiple choice and open-ended numeric items.

## 95. Flexibility of test development software

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Established) Test development software facilitates development of parallel forms or rotated content between forms
<b>Target status</b>	(Advanced) Test development software allows creation of multiple forms, rotated content or adaptive tests for paper and computer-based administration

Justification: The test development software was historically used with great effectiveness for multiple choice, short answer and extended response items. It exclusively produced paper and pencil tests with scannable scoring sheets for multiple choice and short answer items. Most of the functionality of the test development architecture is not available due to the IT infrastructure disruptions. The technology requires updates to the data structure and user interface to improve the sustainable usability of item indexing and test creation and would also need to be upgraded to facilitate PISA-style item responses.

## 96. Use of test development software

<b>Programme output</b>	Enhanced cognitive assessments
<b>Current status</b>	(Advanced) Test development software is used by all parties responsible for the development and review of test forms
<b>Target status</b>	No target specified

Justification: All tests produced by UCEQA must be produced using the standard server-based application.

*Project Requirement 3.3. Establishing security protocols for the NC and for national sub-contractors*

## 97. A secure and comfortable space for conducting the coding operations

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Dedicated secured facilities are available
<b>Target status</b>	No target specified

Justification: The operations of UCEQA already use secure facilities for coding responses on the ZNO.

## 98. Computing security

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Staff are personally responsible for maintaining antivirus and software updates without supervision
<b>Target status</b>	(Established) Staff follow institutional policies regarding regular software and antivirus definition updates

Justification: Updates to computers operating systems and antivirus software are performed at the users' discretion.

## 99. Software resources

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Emerging) Individuals may download or purchase software for their own use without support
<b>Target status</b>	(Established) Organisation maintains software licenses and manages acquisition and installation of necessary software

Justification: Staff typically have their own laptops or have ability to install and run software on their own workstation.

*Project Requirement 3.4. Preparing and distributing testing materials to schools in a secure fashion, ensuring materials arrive safely and without suffering damage or alterations*

## 100. Testing material distribution infrastructure

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Existing infrastructure can be used to transport testing materials using pre-existing security protocols
<b>Target status</b>	(Advanced) Existing infrastructure can be used to transport testing materials using pre-existing security protocols

Justification: PISA booklets will be transported using the same secure transportation used for the ZNO.

## 101. Adequacy of transportation for data collectors

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Data collectors use dedicated institutional vehicles
<b>Target status</b>	No target specified

Justification: Data collectors will use vehicles provided by the regional centres.

*Project Requirement 3.5. 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*

#### 102. Commitment of data collection staff

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Data collection staff are specifically hired or reassigned for this role/project
<b>Target status</b>	No target specified

Justification: Data collectors will be experienced professionals whose main responsibility during the collection period will be the collection of PISA data.

*Project Requirement 3.6. Communication and co-ordination with schools that will participate in the assessment*

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

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Regular contact through professional development and possibly including LSA
<b>Target status</b>	No target specified

Justification: Individual schools have existing professional development and support relationships with regional centres, who will be directly responsible for data collection operations.

*Project Requirement 3.7. Monitoring of school and student response rates, in co-ordination with international and national contractors, as appropriate*

#### 104. Sampling responsiveness during data during collection

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) No updates on sampling or non-response are provided during data collection period
<b>Target status</b>	(Established) Updates from centralised data processing are concurrent with data collection on a (maximum) weekly basis

Justification: There are currently no mechanisms for concurrent updates on the progress of data collection. Missing data, problematic administration and non-response are detected during data processing or during review of data collection operations.

*Project Requirement 3.8. 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*

#### 105. Availability and quality of publishing resources

<b>Programme output</b>	Contextual questionnaires and data collection instruments
<b>Current status</b>	(Advanced) NC has in-house resources or dedicated outsourced service-provider(s) can accommodate the required volume in the desired time span prior to data collection
<b>Target status</b>	No target specified

Justification: UCEQA has in-house publishing capacity for administration booklets. If these existing resources are inappropriate to the specific needs of PISA, there are many local service providers with

large quality print capacity. Additional budget may be required to engage an external service-provider.

#### 106. Quality of document proofing

<b>Programme output</b>	Contextual questionnaires and data collection instruments
<b>Current status</b>	(Advanced) Clear protocols exist for the identification of potential typographic errors and/or the NC has an agreed-upon dictionary and syntactic manual of style
<b>Target status</b>	(Advanced) Clear protocols exist for the identification of potential typographic errors and/or the NC has an agreed-upon dictionary and syntactic manual of style

Justification: Standard practice in UCEQA provides for double and occasional triple-coding of a sample of students responses. The standard practice will need to be reviewed against the PISA operations manual to ensure compliance with the PISA standard.

#### *Project Requirement 3.9. Establishing security protocols for the NC and for national sub-contractors*

#### 107. Integrity of coding

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Coders are selected from nominated applicants using transparent criteria
<b>Target status</b>	No target specified

Justification: Coders are hired based on experience and competence. Any person with requisite experience, typically an academic or experienced teacher, is free to apply. Coders may be released from employment if the quality of their work is unsatisfactory.

#### *Project Requirement 3.10. 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*

#### 108. Commitment of data collectors to training

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Training time is compensated and is integrated with regular duties (or staff are hired exclusively for data collection)
<b>Target status</b>	No target specified

Justification: Training of data collectors is integrated into the responsibilities of data collectors.

#### 109. Availability of training facilities

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Existing facilities may be repurposed to accommodate training
<b>Target status</b>	No target specified

Justification: Data collector training uses common facilities available to the Ministry.

## 110. Avoidance of conflicting interests

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Employment framework require data collectors to disclose any potential conflict of interest
<b>Target status</b>	No target specified

Justification: There is a strong commitment to transparency in test administration at UCEQA, largely influenced by its role in anti-corruption. Currently for the ZNO, a complex algorithm employed by the IT Department ensures that there is no overlap between the subject expertise of data collectors and the assessments they supervise or between the geographic area in which a person is routinely employed and the geographic area from which the students they supervise originate.

*Project Requirement 3.11. Establishing security protocols for the NC and for national sub-contractors*

## 111. Accountability for security

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Where uncontrolled access is possible, legally binding confidentiality agreements enforce the data access restrictions and apply to all staff
<b>Target status</b>	No target specified

Justification: Only the IT Department has access to secure databases. A recent corruption scandal involving the IT Department has made UCEQA extremely cautious about security of data access (as a consequence of the corruption scandal, the entire previous IT Department was terminated). All staff are aware of the professional and legal consequences of breaching data security.

## 112. A secure and comfortable space for the secure storage of completed materials following data collection

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) Facilities have specific security infrastructure (i.e. it is not physically possible for individuals to access secure material without it being granted by NPM)
<b>Target status</b>	No target specified

Justification: The NPM does not have authority to grant access to secure materials. The NPM must make a request to the UCEQA Director, who then authorises (or removes) access privileges. These protocols apply to both electronic and physical material.

## 113. Adherence to security protocols

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) All staff receive training in security protocols
<b>Target status</b>	No target specified

Justification: All staff in UCEQA are aware of the security protocols.



## 114. Security auditing

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Access to secure materials is managed through bureaucratic processes external to the NC
<b>Target status</b>	No target specified

Justification: Access to secure data is monitored directly by the IT Department, which has an administrative structure parallel to the operational structure of UCEQA. The IT Department will act when authorised by the UCEQA Director.

*Project Requirement 3.12. 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*

## 115. Data collection monitoring

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) All monitors are trained as data collectors
<b>Target status</b>	No target specified

Justification: All data collection monitors are trainers of data collectors.

## 116. Monitoring of collection procedures

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) Replacements for exclusions are selected randomly with ad hoc exclusions
<b>Target status</b>	No target specified

Justification: Monitors are assigned randomly to monitoring sites. However, some sites or monitors may be excluded due to travel restrictions or timing. These exceptions are not identified prior to data collection.

*Project Requirement 3.13. Designation of NPM and establishment of NC*

## 117. National co-ordinator for ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) There is a team and national/system co-ordinator to carry out the ILSA activities
<b>Target status</b>	No target specified

Justification: The NPM is a full-time position with three part-time support staff responsible for instrument translation and adaptation.

## 118. Effectiveness of human resources for ILSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The ILSA office is adequately staffed or trained to carry out the ILSA effectively, with minimal issues
<b>Target status</b>	(Advanced) The ILSA office is adequately staffed and trained to carry out the ILSA effectively, with no issues

Justification: The NC has a full-time NPM with three part-time support staff. The support staff are responsible for instrument adaptation and development. Operational responsibilities will use the UCEQA infrastructure used for implementing the ZNO. There is no direct clerical support or specific allocation of operational resources to the PISA project, which may make project management challenging.

*Project Requirement 3.14. Establishing a training plan with key staff of the NC to attend training sessions*

#### 119. Availability of ILSA training

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Latent) The country/system offers no training in ILSA
<b>Target status</b>	(Advanced) Opportunities to learn about ILSA are available to a wide audience, in addition to the country's/system's ILSA team members

Justification: There are no formal programmes for learning about ILSA or PISA in particular.

*Project Requirement 3.15. Designation of NPM and establishment of NC*

#### 120. Local capacity building for ILSA

<b>Programme output</b>	Contextual questionnaires and data collection instruments
<b>Current status</b>	(Latent) The country/system offers no opportunities to learn about ILSA
<b>Target status</b>	(Advanced) The country/system offers a wide range of opportunities to learn about ILSA

Justification: Resources to learn about ILSA (PISA) are primarily found on the internet from international institutions.

*Project Requirement 3.16. Establishing a training plan with key staff of the NC to attend training sessions*

#### 121. Participation in international ILSA training

<b>Programme output</b>	Identify peer-to-peer learning opportunities regarding ILSA participation with other countries and development partners
<b>Current status</b>	(Established) The ILSA team attends or plans to attend all international workshops or meetings
<b>Target status</b>	No target specified

Justification: The NPM will attend all international meetings. Additional resources are required to support participation of other project members and to support the peer-to-peer learning.

*Project Requirement 3.17. Designation of NPM and establishment of NC*

#### 122. Having strong organisational structures for NLSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Established) The NLSA office is a permanent agency, institution, or unit
<b>Target status</b>	No target specified

Justification: The ZNO is the permanent responsibility of UCEQA, which was created with the express purpose of conducting the ZNO.

*Project Requirement 3.18. NPM develops a national dissemination plan of their country's participation in PISA and the relevant results from the pilot*

123. Providing teachers with opportunities to learn about the NLSA

<b>Programme output</b>	Country capacity in assessment, analysis and use of results for monitoring and improvement
<b>Current status</b>	(Advanced) There are widely available high quality courses or workshops on the NLSA offered on a regular basis
<b>Target status</b>	No target specified

Justification: UCEQA provides many learning materials about the ZNO in a variety of print and electronic formats to students and schools. There are also many private sector resource providers and tutors who provide access to practice booklets, previous tests and study guides.

PISA

## Capacity Needs Analysis: Ukraine

In 2018 Ukraine will take part for the first time in the OECD's triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students. Ukraine joins more than 80 countries and economies participating in the 2018 Programme for International Student Assessment (PISA). The Ministry of Education and Science of Ukraine is working with the OECD to maximise its use of PISA for monitoring progress towards nationally-set targets for improvement, for the analysis of factors associated with student learning outcomes, for institutional capacity building, and for tracking international educational targets in the UN-led Education 2030 agenda.

This report presents the results of an analysis of Ukraine 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 Ukraine that will be implemented by the OECD, its contractors, the Ministry of Education and Science, and the Ukrainian Centre for Educational Quality Assurance (UCEQA), which is responsible for managing the PISA assessment in Ukraine.



MINISTERSTWO  
EDUKACJI  
NARODOWEJ

