

THE PISA NATIONAL PROJECT MANAGER ROLES AND RESOURCES

Introduction

A National Project Manager (NPM) is required for each country participating in PISA. The NPM has overall responsibility for the implementation of the project within Taiwan R.O.C., ensuring that tasks are carried out on schedule and in accordance with the specified international standards. Additionally, the NPM is responsible for working in liaison with NAER as Taiwan's PISA Governing Board (PGB) member.

This document provides prospective PISA participants with a description of the scope of the NPM's duties and the national resources required to complete this work. These managers play a vital role in developing and validating the international assessment instruments and implementing the survey. As such, they are expected to have appropriate levels of financial and human resources to be able to perform their tasks in accordance with all international technical standards to ensure that PISA results are of high quality.

Profile of NPM

The NPM is responsible for overseeing all national tasks related to the development and implementation of PISA throughout the entire cycle, so it is desirable for the position to be full time.

Although not desirable, an NPM could work on the project half time depending on the availability of other support staff that might include a co-NPM, administrative assistant, information technology (IT) specialist, data manager, translator co-ordinator, coding specialist, and/or various subject area specialists.

It is strongly recommended that an NPM works on the project year round to ensure continuity of activities.

It is essential for the NPM to have:

- A high level of oral and written communication skills in English (all meetings and communications with the international contractors are in English);
- Previous experience in planning, organising, and conducting large-scale surveys;
- Skills in identifying, selecting, and managing a team of project staff with the experience and capability to multi-task;
- Familiarity with survey quality control and data collection procedures;

- Experience with Microsoft applications such as Word and Excel;

It may be acceptable for a qualified NPM candidate to have familiarity with only some of the following areas if members of the national team collectively possess the required expertise:

- Sufficient knowledge of, and experience with, the overall PISA design, processes, and procedures to represent the country at international meetings where aspects of the project will be discussed;
- Knowledge of, and experience dealing with, national and regional government agencies, school staff, parents, and students within their own countries;
- Knowledge of:
 - Statistics;
 - Sampling;
 - Data file structures, data management, data processing procedures, and data analysis and reporting.
- Ability to oversee translation, adaptation, and verification activities.

It is desirable that the NPM also has:

- Previous work experience in an education system, educational assessment, and survey implementation;
- Familiarity with relational databases (such as Microsoft Access) and statistical packages such as SPSS or SAS.

The PISA Survey Period

PISA 2021 will involve instrument development, two data collections (Field Trial and Main Survey), data analysis, and dissemination of results. The proposed sample size for 2021 has not been approved yet. However, to give an indication of possible sample size, in PISA 2018, the Field Trial involved around 900–1950 students and the Main Survey involved 5250–6300 students. An overview of the key activities of the PISA 2021 survey period is presented below.

- 2019: Preparation for Field Trial data collection including sampling, school materials, translation, adaptation, verification, testing of Student Delivery System, etc.
- 2020: Implementation of the Field Trial, coding of open-constructed response questions, Field Trial data preparation and submission, and Field Trial data analysis

- 2020-2021: Preparation for the Main Survey data collection including sampling, school-level materials, translation, adaptation, verification, testing of Student Delivery System, etc.
- 2021: Main Survey data collection, coding of open-constructed response questions, Main Survey data preparation and submission, and Main Survey data analysis
- 2022: Analysis of Main Survey results, preparation and review of national and international databases, and preparation of reports and dissemination products

Required Resources – PISA ‘Core’ and ‘Optional’ Components

The core components of PISA are the test and questionnaires administered to students and a School Questionnaire administered to participating schools. In addition, there is a ICT Familiarity Questionnaire.

NPMs are expected to have appropriate levels of financial and human resources to be able to perform their tasks in accordance with the international standards and guidelines. An estimate of the staffing and material resources is described below.

Human Resources

National Centre Staff

Each participating country must establish a National Centre that will be responsible for managing the survey implementation. At National Centres, the work associated with PISA will require at least the equivalent of three to four full-time staff members, including the PI, co-PIs, survey team members, etc., on average over the course of the project, plus administrative and clerical support.

If the NPM is working full time on PISA and has expertise in survey design and data management and analysis, the second full-time equivalent staff member could be a combination of an administrative officer (possibly half time), a Data Manager (one-quarter time) who manages all data-related tasks, and an IT co-ordinator (one-quarter time) given the PISA 2021 computer-based mode. Translation activities will require close supervision from March 2019 until January 2020 and, to a lesser extent, from August to November 2020 depending on your testing period. At times, there will be need for additional administrative support.

Committee/Expert Groups

PISA assessments comprise materials for three recurring domains: Reading, Mathematical, and Scientific Literacy. In addition, Creative Thinking is planned as a core domain in PISA 2021. Within each PISA survey period, new item development is focused on one of these recurring domains. The focus area for PISA 2021 is Mathematical Literacy. Additionally, item

development will occur for the new domain of Creative Thinking. Therefore, representative groups of national experts experienced with computer-based assessments (CBAs) in particular should be organised to contribute to and review the development of the new PISA 2021 assessment items for Mathematical Literacy and Creative Thinking.

Countries may consider establishing national advisory committees composed of leading national experts in, for example, survey research and education management. These individuals could offer advice for the project and ensure that national views are represented.

The PISA survey involves the administration of school and student questionnaires and possibly optional questionnaires, which need to be reviewed by national experts.

Many countries rely on input from national advisory committees and expert groups to review progress, procedures, and results throughout the project. If applicable, these groups should meet on a regular basis, and these costs should be factored into the national PISA budget.

Translators and Reconcilers/Adaptors

All test and questionnaire materials are prepared by the international contractors in English and French. For translation into other languages, PISA Standards require a process of double independent translation followed by reconciliation to merge the independent versions. This means National Centres will need a minimum of three translators for these procedures. In addition, translation and/or adaptation of school-level materials and coding guides are required.

The translators producing the two independent translations should have a professional background with adequate qualifications (including, but not limited to, a master's degree in translation, translation science, or linguistics) and/or at least five years' experience. The reconciler, who merges the two translations, should combine adequate qualifications with specific experience in translating/adapting survey materials. In-depth understanding of the main 2021 domain (Mathematical Literacy) and familiarity with psychometrics are desirable. Note that if one translator translates from English and the second from French into the language of instruction, then the reconciler should be proficient in both English and French.

For versions that are adapted from one of the source versions¹, a centrally-produced reference version, or a verified borrowed version, the adaptor (the person in charge of adapting the material) should have the same profile as reconcilers, i.e. adequate qualification combined with experience in adapting survey material and in-depth understanding of the PISA 2021 main domain.

The NPM is responsible for the following translation and adaptation activities:

- Monitor and co-ordinate the translation and adaptation of instruments and supporting materials in accordance with international specifications;

¹ Source or master version(s): The version(s) of a document released by the international contractors for translation and adaptation by the National Centre. These may refer to English version or English and French versions, depending on the material.

- Document proposed changes to instruments and supporting materials for further verification;
- Communicate with the contractors on translation and adaptation issues; and
- Organise translation/adaptation of all training and school-level materials as needed.

Data Managers and Processing Staff

A National Data Manager will be responsible for managing all the data-related activities within the country for both the Field Trial and Main Survey and will serve as the primary contact with contractors regarding all Data Management activities. In particular, the Data Manager will be expected to attend one KQ training prior to the Field Trial (November 2019) and two Data Management training sessions – one prior to the Field Trial in January 2020 and one prior to the Main Survey in January 2021.

Additionally, a number of data-processing operations that occur during the PISA survey period will require additional staffing. For example:

- Coders of constructed-response (i.e., open-ended) items; and
- Coders of occupational response data.

The NPM is responsible for the following data file preparation activities:

- Conduct validation checks of data from the survey instruments in accordance with PISA guidelines;
- Organise the dispatch of data files to the contractors; and
- Acknowledge receipt of queries within one working day and respond to data queries in a timely fashion.

Information Technology (IT)

As PISA is implemented as a computer-based survey in Taiwan R.O.C., IT personnel are needed to manage PISA's IT-related activities in the country and the implementation of the survey within schools. This team should be knowledgeable about IT and familiar with survey operations in their country, the IT infrastructure used within schools, and the challenges of using school computers for testing. IT work will be concentrated in the periods of instrument development as well as data collection, and during these times the IT team should work full time on PISA. The work will involve testing the delivery system of tests and questionnaires, testing and monitoring the data collection in schools, duplication, and distribution of PISA software, and collection and management of data returned from schools.

An IT Co-ordinator should have experience in:

- Troubleshooting hardware and networking problems;

- Resolving Web-based and Web service problems with nationally used operating systems;
- Extracting and transmitting data from computers;
- Maintaining data and communications security in an Internet environment;
- Training others on computer use; and
- Supporting field staff and schools.

It is highly recommended that the same Data Manager and IT Co-ordinator work during both the Field Trial and Main Survey preparations, data collections, and processing.

Sampling

The NPM is responsible for monitoring or implementing the following sampling activities for both the Field Trial and Main Survey:

- Develop a comprehensive file of schools that includes the entire PISA student population;
- Work closely with the contractors to ensure that the sample design meets all national requirements;
- Determine what the national requirements are for implementing international options and/or national options, including oversampling, which have an impact on school and/or student sampling;
- Monitor the school sample selection process to ensure there are no unexpected issues with the final school sample;
- Obtain lists of PISA-eligible students from each participating school and ensure the lists are of high quality;
- Use the within-school sampling software, KeyQuest (KQ), provided by the contractors to select the student sample in each school;
- When necessary for the Main Survey, conduct a non-response bias analysis in accordance with specifications provided by the contractors ; and
- Acknowledge receipt of queries within one working day and respond to inquiries from the contractors concerning sampling issues after submission of the assessment data.

School Co-ordinators

A staff member from each sampled school will need to be recruited as a School Co-ordinator. The work of the School Co-ordinator involves collecting and recording information about the

target population within the school, disseminating information to the school community, and assisting the Test Administrator in organising the assessment activity.

Test Administrators/School Associates

Test administrators will be recruited to administer the assessment at participating schools for both the Field Trial and the Main Survey. They are preferably external to the schools in which they will do PISA work. The PISA Standards require that all Test Administrators are trained in person or in web-based trainings. They also should be comfortable working with computers.

The number of required Test Administrators will vary depending on several factors such as: the sample size in your country, the length of your data collection period, the location of the schools, the number of testing sessions within schools, the number of school computers and/or external laptops that are available (for countries participating in the computer-based assessment), and other national and local considerations.

In certain countries, Test Administrators also fulfil the role of School Co-ordinators. Such individuals are called School Associates and receive the training that both School Co-ordinators and Test Administrators receive.

Facilities

When a National Centre is established, it is important to ensure that the following facilities are available to the NPM and the National Centre staff:

- PCs running Windows with Microsoft Office applications. Two applications are especially important for data processing – Excel and Word;
- Access to a reliable, high-bandwidth Internet connection and email facilities. Nearly all communication between the National Centre and international contractors occurs via email. Thus, access to reliable email facilities is highly important. The international contractors maintain a secure website that contains key dates, documents, and survey tools. Access to this site is essential for NPMs to be kept up to date and involved with the progress of the survey;
- Secure space for conducting the Field Trial and Main Survey coding operations;
- Secure space for the storage of equipment and materials at all times.

Production of Materials

The following tasks regarding materials are to be undertaken in preparation for both the Field Trial and Main Survey:

- Finalise materials:

- For computer-based assessment (CBA) countries, review and testing of the Student Delivery System.
- Dispatch materials: Dispatch of manuals, associated materials, and USBs with the Student Delivery System (CBA countries) to test administrators and schools.

Promotional Materials and Presentations

An important strategy in raising the awareness of PISA is the dissemination of promotional material and the reporting of survey results. This could involve:

- Production of national and local promotional and publicity materials;
- Promotion of PISA with a national website;
- Promotion of PISA through meetings with national and regional governmental, business, and educational leaders and other concerned parties; and
- Production of national reports of the survey results (Main Survey only). It is recommended that a national dissemination strategy be developed that takes the international reporting timeline into account (the final international report is due to be released in December 2022 and all the national and international data are under embargo before the released date). Some countries aim to release their national reports at the same time as the international report.

Meeting and Training Attendance

NPM meetings: It is required that NPMs and other key national staff attend international meetings in person up to four times during the survey period. A tentative schedule of these meetings is as follows:

- March 2019
- November 2019
- November 2020
- June-July 2022

Training sessions: NPMs and other key national staff are required to attend training sessions, held twice during the five-year survey period:

- Field Trial International Training in January 2020
- Main Survey International Training in January 2021

Webinars: In addition to the in-person meetings, there may be multiple webinars throughout the cycle to cover specific issues related to the project. It is required that NPMs and other key national staff participate in these webinars as appropriate.