

Chapter 14: DATA ADJUDICATION

INTRODUCTION

The PISA-D Technical Standards specify the way in which PISA-D must be implemented in each country. International contractors monitor the implementation of each of these standards and adjudicate on their adherence to them. This chapter describes the process used to adjudicate the implementation of PISA-D in each of the countries and gives the outcomes of data adjudication that are mainly based on the following aspects:

- the extent to which each country met PISA-D sampling standards,
- the outcomes of the adaptation, translation, and verification process,
- the outcomes of the PISA-D Quality Monitoring visits,
- the quality and completeness of the submitted data, and
- the outcomes of the international coding review.

The areas covered in the PISA-D Technical Standards include the following:

Data standards

- Target population and sampling
- Language of testing
- Field Trial participation
- Adaptation of tests, questionnaires, and school-level manuals and scripts
- Translation of tests, questionnaires, and school-level manuals and scripts
- Test administration
- Security of the material
- Quality monitoring
- Assembling and printing of material
- Response coding
- Data submission

Management standards

- Communication with the international contractors
- Schedule for submission of materials
- Drawing samples

- Management of data
- Archiving of materials

National involvement standards

- National feedback
- Meeting attendance

IMPLEMENTING THE STANDARDS—QUALITY ASSURANCE

National Project Managers of participating countries are responsible for implementing the standards based on the international contractors' advice as contained in the various operational manuals and guidelines. Throughout the cycle of activities for the PISA-D survey, the international contractors carried out quality assurance activities in two steps. The first step was to set up quality control procedures using the operational manuals, as well as the agreement processes for national submissions for various aspects of the project. These processes gave the international contractor staff the opportunity to ensure that PISA-D implementation was planned in accordance with the PISA-D Technical Standards and to provide advice on taking rectifying action when required and before critical errors occurred. The second step was quality monitoring, which involved the systematic collection of data that monitored the implementation of the assessment in relation to the standards. For data adjudication, it was the information collected during both the quality control and quality monitoring activities that was used to determine the level of compliance with the standards.

INFORMATION AVAILABLE FOR ADJUDICATION

The international contractors' quality monitoring of a country's data collection is carried out from a range of perspectives during many stages of the PISA-D cycle. These perspectives include monitoring a country's adherence to the deadlines, communication from the sampling contractor about each country's sampling plan, information from the language verification team, data from the PISA-D Quality Monitors, and information gleaned from direct interviews at National Project Manager and Coder Training meetings. The information was combined together in a database so that:

- indications of noncompliance with the standards could be identified early on in order to enable rectifying measures,
- the point at which the problem occurred could be easily identified, and
- information relating to the same PISA-D standard could be cross-checked between different areas or sources.

Many of these data collection procedures refer to specific key documents, specified in the National Project Manager's Manual and the Main Survey School Sampling Preparation Manual in particular. These are procedures that the international contractors require for Field Trial and Main Survey preparation from each National Centre. The data adjudication process provides a motivation for collating and summarising the specific information relating to PISA-D standards collected in these documents, combined with information collected from specific quality monitoring procedures such as the PISA-D Quality Monitor visits and from information in the submitted data.

The quality monitoring information was collected from various quality monitoring instruments and procedures and covered the following main administrative areas:

- International contractors' administration and management: information relating to administration processes, agreement of adaptation spreadsheets, submission of information;
- Data analysis: information from the item level reports, Field Trial sample, item information for cleaning;
- School-level materials: information from the agreement of adaptations to test administration procedures and field operations;
- Final Optical Check team: information from the pre- and post-Main Survey Final Optical Checks of Main Survey booklets;
- National Centre quality monitoring: information gathered through interviews conducted during meetings of National Project Managers or at other times;
- Co-ordination of PISA-D Quality Monitor activities including recruitment;
- PISA-D Quality Monitor reports: information gathered via the Data Collection Forms from PISA-D Quality Monitors and through their interactions with School Co-ordinators and Test Administrators;
- Sampling: information from the submitted data such as school and student response rates, exclusion rates, and eligibility problems;
- Translation: information relating to the verification and translation process;
- National Centre Test Administrator or School Associate trainings;
- National quality monitoring issues;
- Data cleaners: issues identified during the data cleaning checks and from data cleaners' reports;
- Item developers: issues identified in the coder query service and training of coders;
- Data processing: issues relating to the eligibility of students tested;
- Questionnaire data: issues relating to the questionnaire data in the national questionnaire reports provided by the international contractor; and
- Questionnaire Final Optical Check: issues arising from the Final Optical Check of the questionnaires.

QUALITY MONITORING REPORTS

There were two types of PISA-D quality monitoring reports: the Session Report Forms containing data for each session in each school, and the Data Collection Forms detailing the general observations across all schools and sessions visited by PQMs. The Session Report Form was completed by the Test Administrator after each original test session and follow-up session and contained data related to test administration. The data from this report were recorded by the National Centre and submitted as part of the national dataset to ETS.

The PISA-D Quality Monitor reports contained data related to test administration in selected schools, and the PISA-D quality monitoring data were collected independently of the National

Project Manager by the international survey operations contractor.

DATA ADJUDICATION PROCESS

The main aim of the adjudication process is to make a judgement on each national dataset in a manner that is transparent, based on evidence, and defensible. The data adjudication process achieved this through the following steps:

Step 1: Quality control and quality monitoring data were collected throughout the survey administration period.

Step 2: Data collected from both quality control and quality monitoring activities were entered into a single quality assurance database.

Step 3: Experts compiled country-by-country reports that contained quality assurance data for key areas of project implementation.

Step 4: Experts considered the quality assurance data that were collected from both the quality control and quality monitoring activities to make a judgement. In this phase, the experts collaborated with the international contractors to address any identified areas of concern. Where necessary, the relevant National Project Manager was contacted through the contractors. At the end of this phase, experts constructed, for each adjudicated dataset, a summary detailing how the PISA-D Technical Standards had been met.

Step 5: The international contractors and the Technical Advisory Group reviewed the reports and made a determination with regard to the quality of the data from each adjudicated entity.

Monitoring compliance to any single standard occurred through responses to one or more quality assurance questions regarding test implementation and national procedures that may come from more than one area. For example, the data from the Session Report Forms were used in conjunction with the PISA-D Quality Monitor reports and information from the adaptation of national manuals to assess compliance with the PISA-D session timing standard (Standard 6.1).

Information was collected in relation to these standards through a variety of mechanisms:

- PISA-D Quality Monitor reports;
- information negotiated and stored on the PISA-D SharePoint site;
- a system database specific to the implementation of PISA-D tasks;
- formal and informal exchanges between the international contractors and National Centres over matters such as sampling, translation and verification, and specially requested analyses (such as nonresponse bias analysis);
- a detailed post hoc inspection of all Main Survey assessment materials (test booklets); and
- the data cleaning and data submission process.

For PISA-D, an adjudication database was developed to capture, summarise, and store the most important information derived from these various information sources. The staff members of the international contractor who led each area of work were responsible for identifying relevant information and entering it into the database. This means that at the time of data adjudication, relevant information was easily accessible for making recommendations about the fitness of use of data from each PISA-D country.

The adjudication database captured information related to the major phases of the data operation: field operations, sampling, questionnaires, and tests. Within each of these phases, the specific activities are identified and linked directly to the corresponding standards.

Within each section of the database, specific comments are entered that describe the situation of concern, the source of the evidence about that situation, and the recommended action. Each entry is classified as serious, minor, or of no importance for adjudication. Typically, events classified as serious would warrant close expert scrutiny and possibly action affecting adjudication outcomes. Events classified as minor would typically not directly affect adjudication outcomes but will be reported back to National Centres to assist them in reviewing their national procedures.

DATA ADJUDICATION

It was expected that the data adjudication would result in a range of possible recommendations. Some possible, foreseen recommendations included that:

- the data be declared fit for use;
- some data be removed for a particular country, such as the removal of data for some open-ended items or the removal of data for some schools;
- rectifying action be performed by the National Project Manager, such as providing additional evidence to demonstrate that there was no nonresponse bias, or rescored open-ended items;
- the data not be endorsed for use in certain types of analyses; and
- the data not be endorsed for inclusion in the PISA-D database.

Throughout PISA-D, the international contractors concentrated their quality control activities to ensure that the highest scientific standards were met. However, during data adjudication a wider definition of quality was used, especially when considering data that were at risk. In particular, the underlying criterion used in adjudication was fitness for use; that is, data were endorsed for use if they were deemed to be fit for meeting the major intended purposes of PISA-D.

GENERAL OUTCOMES

Overview of response rate issues

The PISA-D school response rate requirements are discussed in Chapter 4.

Detailed country comments

It is important to recognise that PISA-D data adjudication is a late but not necessarily final step in the quality assurance process. By the time each country was adjudicated at the Technical Advisory Group meeting in June 2016, the quality assurance and monitoring processes outlined earlier in this chapter and in Chapter 7 had been implemented. Data adjudication focused on residual issues that remained after these quality assurance processes had been carried out.

The remaining issues fall under two broad categories: (1) adaptations to the recommended international standard procedures in a country's data collection plan, and (2) a failure to meet international standards at the implementation stage.

Departures from standard procedures in the national data collection plan

With such a broad and diverse range of participation, it is to be expected that the international best practice approaches to data collection articulated in the PISA-D Technical Standards document may not be achieved in all national and local contexts. This may be the case for a number of reasons. For example, it may be contrary to national protocols to have unannounced visits of quality monitors to schools to observe test administration. Or, it may not be possible for school staff from very remote or very small schools to leave their schools to attend training in the mechanics of PISA-D test administration. Typically these were discussed with international contractor experts in advance of the assessment, and alternative approaches were considered jointly between the National Project Manager and the international contractors. In isolated departures from best practice in cases such as these, a judgement might easily be made by international contractor experts that there was minimal risk to the quality of the data collection plan. Such isolated departures are not reported in the country summaries below.

On the other hand, it might not have been straightforward to determine in advance of the assessment how more extensive or multiple departures from PISA-D Technical Standards might interact with each other and with other aspects of a country's data collection plan. Such cases were considered part of the data adjudication process and are included in the country summaries below.

Departures from standards arising from implementation

Departures from the standards at the implementation stage range from errors within the National Centre (e.g., during the final stages of preparing materials, or in the administration of the coding operation following data collection), to a failure to meet documented targets during data collection, for example, a shortfall from the minimum school and student sample sizes.

Overall, the PISA-D Adjudication Group's review of the adjudication database suggests that PISA-D has been implemented in accordance with PISA's technical standards and that the isolated deviations from these standards did not affect the quality of the data products. The quality with which procedures were implemented in PISA-D is in fact comparable to any previous cycle of PISA. In particular, countries complied with standards related to all aspects of PISA-D implementation with the exception of the following deviations:

- with the exception of one country, countries did not meet the sample size minimum due to poor frame information for the number of PISA-D eligible students, but there is no indication of bias in any of the samples and this did not affect compliance with the remaining sampling standards;
- there were some minor issues regarding quality monitoring in one country;
- there were some minor issues regarding data submission in three countries; and
- there were problems with English language capacity in one country.

These minor deviations were discussed by the PISA-D Technical Advisory Group, and it was determined that these had no impact on the quality of the data which was found fit for reporting in accordance with the goals of PISA-D and, most importantly, for reporting countries' average performance on the PISA scale and for reporting students' proficiency, particularly at Level 2 and below. There were no major issues that required adjudication.