



# Chapter 7

## *Quality Assurance in the PIRLS 2006 Data Collection*

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### 7.1 Overview

Quality assurance in large-scale international surveys such as PIRLS is extremely important for making valid comparisons of student achievement across many countries. In order to ensure the quality of the PIRLS data, considerable effort was made in developing standardized materials and survey operations procedures (for more information on survey operations procedures, please see Chapter 6.) In its commitment to high quality standards, the TIMSS & PIRLS International Study Center developed an ambitious program to monitor and document data collection activities in participating countries. To implement this program, an international Quality Control Monitor (QCM) in each of the participating countries was selected by the IEA Secretariat in cooperation with the national center.

The TIMSS & PIRLS International Study Center conducted an extensive, 2-day QCM training on observing PIRLS 2006 testing sessions and documenting test administration procedures in 15 classrooms. The QCMs were introduced to the PIRLS 2006 survey operations procedures, including data collection in the schools. Each QCM received the necessary materials for completing their tasks, including a copy of the *PIRLS 2006 International Quality Control Monitor Manual*, Classroom Observation Record, *PIRLS 2006 Survey Operations Procedures Units 1–3*, *School Coordinator Manual*, and *Test Administrator Manual*.

The major task of the international QCMs was to conduct site visits to a random sample of 15 schools during the test administration in their countries. Where necessary, the QCMs were permitted to recruit one or more assistants in order to effectively cover the territory and testing timetable. A total of 103 international QCMs and their assistants were trained across the 45 participants in PIRLS 2006.<sup>1</sup> Altogether, these monitors observed 669 testing sessions. The results of the QCM observations are reported in Section 7.2.

In addition to the international and national quality control programs, the National Research Coordinators (NRCs) were asked to complete the *Survey Activities Questionnaire* about their experiences with the PIRLS 2006 survey operations procedures and the quality of the assessment materials. The main purpose of the questionnaire was to gather opinions and information to be used to further improve the quality of the survey activities and materials for future PIRLS cycles. Section 7.3 summarizes information that reflects the quality of the PIRLS 2006 survey materials and procedures within the participating countries.

## 7.2 Quality Control Observations of the PIRLS 2006 Test Administration

For each testing session observed, QCMs completed the PIRLS 2006 Classroom Observation Record. The observation record was organized into the four sections, listed below, in order to facilitate accurate recording of the test administration's major activities.

**Section A:** Preliminary Activities of the Test Administrator

**Section B:** Assessment Session Activities

**Section C:** Summary Observations

**Section D:** Interview with the School Coordinator

### 7.2.1 Preliminary Activities of the Test Administrator

Section A of the Classroom Observation Record addresses preparation for the testing session. QCMs were asked to note the following activities of the Test Administrator: checking the testing materials, reading the administration script, organizing space for the session, and arranging for the necessary equipment.

Exhibit 7.1 summarizes the results for Section A. In nearly all testing sessions, Test Administrators observed the proper preparatory procedures. For those few deviations that occurred, the QCMs provided reasonable explanations

1 PIRLS 2006 was conducted in 40 countries, including Belgium with 2 education systems (Flemish and French) and Canada with 5 provinces (Alberta, British Columbia, Nova Scotia, Ontario, and Quebec)—45 participants in total.

for almost all the discrepancies. For example, QCMs sometimes noted that a student had left school and/or a new student had joined the class, which was not documented on the list. In fact, this was the main reason for information about student test instruments not corresponding exactly to the Student Tracking Forms.

The absence of a stopwatch was not considered a serious limitation. Test Administrators who did not have a stopwatch had a wristwatch available to monitor the time remaining in the test sessions. In general, QCMs observed no procedural deviations in test preparations that were severe enough to jeopardize the integrity of the test administration.

**Exhibit 7.1 Preliminary Activities of the Test Administrator**

Question	Yes	No	Not Answered
Had the Test Administrator verified adequate supplies of the test booklets?	98%	2%	0%
Had the Test Administrator familiarized himself or herself with the test administration script prior to the testing?	97%	2%	1%
Did the student identification information on the test booklets and student questionnaires correspond with the Student Tracking Form?	90%	3%	7%
Was there adequate seating space for the students to work without distractions?	97%	1%	2%
Was there adequate room for the Test Administrator to move around during the testing to ensure that student were following directions correctly?	98%	1%	1%
Did the Test Administrator have a stop watch or timer for accurately timing the testing session?	92%	6%	2%

### 7.2.2 Assessment Session Activities

Exhibits 7.2 through 7.4 present the QCM reports about the activities conducted during the assessment sessions. During each session, the achievement test was administered in two parts with a short break in between followed by another short break and the administration of the *Student Questionnaire*. Section B of the Classroom Observation Record addressed the activities that took place during the actual assessment session, including following the Test Administrator script, distributing and collecting test booklets, and making announcements during the testing sessions.

Activities during the first part of the testing session are presented in Exhibit 7.2. One of the most important standardizations for the assessment administration was the fact that the test administrator's script was followed in all participating countries. The QCMs reported that in almost all of their observations, the Test Administrators followed their script exactly when preparing the students, distributing the test materials, and reading the directions and examples. Of the changes that were made, the majority were considered minor. Changes made to the script were most frequently additions for clarification of procedures, rather than revisions or deletions.

Primarily because students had completed Part 1 before the allotted time had elapsed, the total testing time for the first part was not equal to the time allowed in 9 percent of the sessions. After 40 minutes, the Test Administrator instructed students to close their test booklets and announced the break to be followed by the second part of the test. In 97 percent of the cases, the Test Administrator made sure that students stopped working immediately. In most sessions, the room then was either secured or supervised during the break. When asked whether the break between parts was equal or less than 15 minutes, QCMs interpreted the question literally. As a result, QCMs gave a negative answer to this question, unless the break was "exactly" 15 minutes. The QCMs reported that the break between parts ranged from no break at all (in one case) to about half an hour.

Exhibit 7.3 summarizes the QCMs' observations during the second part of the testing session. In 92 percent of the sessions, the time spent to restart the testing session was 5 minutes or less. Similar to the timing of Part 1, in 14 percent of the classrooms, the testing session in Part 2 was shorter than the allotted 40 minutes because students had finished the achievement test early.

**Exhibit 7.2 Assessment Session Part 1**

Question	Yes	No	Not Answered
Did the test administrator follow the test administrator's script exactly in each of the following tasks?			
Preparing the students	91%	8% (Minor changes) 0% (Major)	1%
Distributing the materials	93%	4% (Minor) 1% (Major)	1%
Reading the directions	82%	16% (Minor) 1% (Major)	1%
Reading the examples	88%	10% (Minor) 1% (Major)	1%
If the Test Administrator made changes to the script, how would you describe them?			
Additions	21%	26%	53%
Revisions	10%	31%	59%
Deletions	4%	35%	61%
Did the Test Administrator distribute the test booklets according to the booklet assignment on the Student Tracking Form?	98%	1%	1%
Did the Test Administrator record attendance correctly on the Student Tracking Form?	98%	1%	1%
Did the total testing time for Part 1 equal the time allowed?	90%	9%	1%
Did the Test Administrator announce "you have 5 minutes left" prior to the end of Part 1?	94%	6%	0%
Were there any other time remaining announcements made during Part 1?	14%	85%	1%
At the end of Part 1, did the Test Administrator make sure all students had closed their booklets?	97%	2%	1%
Was the total time for the break equal to or less than 15 minutes?	73%	23%	4%
Were the booklets left unattended or unsecured during the break?	13%	85%	2%

**Exhibit 7.3 Assessment Session Part 2**

Question	Yes	No	Not Answered
Was the time spent to restart the testing for Part 2 equal to or less than 5 minutes?	92%	4%	4%
Was the total time for testing in Part 2 correct as indicated in the script?	85%	14%	1%
Did the Test Administrator announce "you have 5 minutes left" prior to the end of Part 2?	87%	12%	1%
Were there any other time remaining announcements made during Part 2?	10%	86%	4%
At the end of Part 2, did the Test Administrator collect the test booklets one at a time from each student?	94%	6%	0%
When the Test Administrator read the script to end the testing for Part 2, did he/she announce a break to be followed by the <i>Student Questionnaire</i> ?	83%	14%	3%
Did the Test Administrator accurately read the script to end the testing and signal a break?	68%	22% (Minor changes) 3% (Major changes)	7%
If there were changes, how would you describe them?			
Additions	12%	24%	64%
Some minor changes	15%	20%	65%
Omissions	10%	25%	65%
Did the Test Administrator distribute the <i>Student Questionnaires</i> and give directions as specified in the script?	84%	6%	10%
Did the students ask for additional time to complete the questionnaire?	37%	51%	12%
Did the Test Administrator distribute a <i>Learning to Read Survey</i> to each student who participated in the testing?	60%	32%	8%
At the end of the session, prior to dismissing the students, did the Test Administrator thank the students for participating in the study?	88%	4%	8%

About 68 percent of the Test Administrators kept to the testing script for signaling a break before administering the student questionnaire. Of those who did make changes, only 3 percent reported major changes. Most had made additions or other minor changes, such as paraphrasing the directions. In 37 percent of the QCM observations, the students requested additional time to complete the questionnaire, which in all cases was granted.

Exhibit 7.4 provides observations on student compliance with instructions and the alignment of the scripted instructions with their implementation.

The results show that in almost all of the sessions, the students complied well or very well with the instructions to stop working between parts of the test, and, in most cases, the dismissal of the students was orderly or very orderly.

**Exhibit 7.4 Student Cooperation at the End of the Assessment Sessions**

Question	Very Well	Well	Fairly Well	Not Well at All	Not Answered
When the Test Administrator ended Part 1, how well did the student comply with the instruction to stop work?	87%	11%	1%	0%	1%
When the Test Administrator ended Part 2, how well did the student comply with the instruction to stop work?	89%	9%	1%	0%	1%

Question	Very Orderly	Somewhat Orderly	Not Orderly at All	Not Answered
How orderly was the dismissal of the students?	77%	13%	3%	7%

### 7.2.3 General Observations

Section C of the Classroom Observation Record refers to the QCMs general observations during the testing sessions. The QCMs reported overall impressions of the test administration, including how well the Test Administrator monitored students and any unusual circumstances that arose during the testing session (e.g., a student's refusal to participate, defective instrumentation, emergency situations, and cheating).

The results presented in Exhibits 7.5 and 7.6 show that, for most testing sessions, no problems were observed. In 99 percent of the cases, Test Administrators addressed students' questions, as instructed in the *Test Administrator Manual*.

QCMs reported evidence of students attempting to cheat on the test in only 2 percent of testing sessions. However, when asked to explain the situation, QCMs generally indicated that students were merely looking around at their neighbors to see whether or not their test booklets were different. Because the PIRLS 2006 test design involves 13 different booklets, students were unlikely to have the same booklet as their neighbors.

In the few sessions where a defective test instrument was detected, the Test Administrator nearly always replaced the instrument appropriately. All cases of a student refusing to take the test happened prior to the testing and were due mostly to the fact that parental permission for participation was denied.

In 13 percent of the observed testing sessions, a student left the room for an “emergency” during the testing session. In such cases, Test Administrators were instructed to collect the student’s test booklet, and give it back after he or she returned. However, in many cases, the student had already completed the test and, thus, did not want to receive his or her test booklet back after returning to the classroom. In three cases, a student got sick and did not return to the testing at all, and, in all the remaining cases, students were instructed to close their booklets and leave them on their tables while being out of the classroom.

The QCMs reported that there were no cases where students were not orderly and cooperative at all during the testing sessions. In the very few cases where students’ order or cooperation was less than perfect or very good, problems mostly appeared during the *Student Questionnaire* administration because students were obviously tired. In such cases, the Test Administrators managed to control the situation. The QCMs reported that the overall quality of all the testing sessions was good, very good, or, in 54 percent of the cases, excellent.

**Exhibit 7.5 General Observations**

Question	Yes	No	Not Answered
During the testing sessions did the Test Administrator walk around the room to be sure students were working on the correct section of the test and/or behaving properly?	97%	2%	1%
Did the Test Administrator address students’ questions appropriately?	99%	1%	0%
Did you see any evidence of students attempting to cheat on the tests (e.g., by copying from a neighbor)?	2%	97%	1%
Were any defective test booklets detected and replaced before the testing began?	2%	97%	1%
Were any defective test booklets detected and replaced after the testing began?	2%	96%	2%
If any defective test booklets were replaced, did the Test Administrator replace them appropriately?	46%	12%	42%
Did any students refuse to take the test either prior to the testing or during the testing?	5%	93%	2%
If a student refused, did the Test Administrator accurately follow the instructions for excusing the student (collect the test booklet and record the incident on the Student Tracking Form)?	32%	16%	53%
Did any students leave the room for an “emergency” during the testing?	13%	85%	2%
If a student left the room for an emergency during the testing, did the Test Administrator address the situation appropriately (collect the test booklet, and if re-admitted, return the test booklet)?	60%	31%	9%



**Exhibit 7.6 Observations of Student Behavior**

Question	Extremely	Moderately	Somewhat	Hardly	Not Answered
To what extent would you describe the students as orderly and cooperative?	76%	20%	2%	0%	2%

	No, There Were No Late Students	No, They Were Not Admitted	Yes, but Before Testing Began	Yes, After Testing Began	Not Answered
Were any late students admitted to the testing room?	93%	2%	2%	2%	1%

	Excellent	Very good	Good	Fair	Poor	Not Answered
In general, how would you describe the overall quality of the testing session?	54%	33%	8%	3%	0%	2%

**7.2.4 Interview with the School Coordinator**

The QCMs recorded details of the interview with the School Coordinator in Section D of the Classroom Observation Record. The interview addressed the shipment of assessment materials, arrangements for test administration, the responsiveness of the NRC to queries, the necessity for makeup sessions, and, as a validation of within-school sampling procedures, the organization of classes in the school.

The results presented in Exhibit 7.7 show that PIRLS 2006 was an administrative success in the eyes of School Coordinators. Mistakes that did occur tended to be minor and could be remedied prior to testing. There were only a few cases where there were items missing in the shipment of the test materials, and, in all such cases, they were resolved before the testing date. By and large, the of School Coordinators (82 percent) reported that the NRCs were responsive to their questions or concerns.

Sixty-three percent of the School Coordinators reported that they were able to collect the completed *Teacher Questionnaires* prior to the student testing. It was estimated that the *Teacher Questionnaire* would take about 30 minutes to complete. About half of the School Coordinators indicated that the estimate of 30 minutes was approximately correct, while 29 percent reported that the questionnaire took longer, and 7 percent said that it took less time to complete.

In 51 percent of the cases, School Coordinators indicated that students were given special instructions, motivational talks, or incentives by a school official or the classroom teacher prior to testing.

In 21 percent of the observed schools, the School Coordinator anticipated that a makeup session would be needed, and almost all of them were sure that a makeup session would be conducted.

Because the sampling of classes requires a complete list of all classes in the school at the target grade, QCMs were asked to verify that the class list did indeed include all classes. Although a significant number of School Coordinators reported that this was not so, the additional comments show that they were very confused by the question itself. Almost all of them commented that they sent a list of all classes to the national center, but only one or two classes were selected to participate. Therefore, there are students at the grade level who did not have a chance to participate. In one case, the School Coordinator reported that there was a class with students who had special needs at this grade level, which indicates that this class had been excluded from the testing at the very beginning of the sampling process. The confusion about this question will require some extra explanation and revision for future cycles of PIRLS studies.

The results in Exhibit 7.8 suggest that the majority of School Coordinators believed that the testing session went very well and that school staff had positive attitudes towards the PIRLS testing. The fact that 89 percent of respondents said they would be willing to serve as a School Coordinator in future international assessments may also be attributed to these positive attitudes.

**Exhibit 7.7 Results of the QCM Interviews with the School Coordinator**

Question	Yes	No	Not Answered
Prior to the test day did you have time to check your shipment of materials from your PIRLS National Coordinator?	84%	9%	7%
Did you receive the correct shipment of the following items?			
<i>School Coordinator Manual</i>	82%	11%	7%
<i>Test Administrator Manual</i>	81%	12%	7%
Student Tracking Forms	88%	5%	7%
Test booklets	83%	10%	7%
<i>Student Questionnaires</i>	83%	10%	7%
<i>Learning to Read Surveys</i>	85%	8%	7%
<i>Teacher Questionnaires</i>	91%	4%	5%
<i>School Questionnaire</i>	90%	4%	6%
Test Administration Form	83%	10%	7%
Teacher Tracking Form	75%	18%	7%
Envelopes or boxes addressed to the national center for the purpose of returning the materials after the assessment	76%	17%	7%
Was the National Coordinator responsive to your questions or concerns?	82%	3%	15%
Were you able to collect completed <i>Teacher Questionnaire(s)</i> prior to the test administration?	63%	34%	3%
Was the estimated time of 30 minutes to complete the <i>Teacher Questionnaires</i> a correct estimate?	47%	29% (Took longer) 7% (Took less time)	17%
Were you able to collect the completed <i>School Questionnaire</i> prior to the test administration?	61%	35%	4%
Were you satisfied with the accommodations (testing room) you were able to arrange for the testing?	97%	1%	2%
Do you anticipate that a makeup session will be required at your school?	21%	75%	4%
If you anticipate a makeup session, do you intend to conduct one?	91%	3%	6%
Did the students receive any special instructions, a motivational talk, or incentives to prepare them for the assessment?	51%	45%	4%
Is this a complete list of the classes in this grade in this school?	81%	6%	13%
To the best of your knowledge, are there any students in this grade level who are not in any of these classes?	17%	80%	3%
To the best of your knowledge, are there any students in this grade level in more than one of these classes?	1%	96%	3%
If there was another international assessment, would you be willing to serve as a School Coordinator?	89%	7%	4%

**Exhibit 7.8 Overall Impressions from the QCM Interviews with the School Coordinator**

Question	Very Well, No Problems	Satisfactorily, Few Problems	Unsatisfactorily, Many Problems	Not Answered
Overall, how would you say the session went?	84%	13%	0%	3%

	Positive	Neutral	Negative	Not Answered
Overall, how would you rate the attitude of the other school staff members towards the PIRLS testing?	74%	21%	2%	3%

	Worked Well	Needs Improvement	Not Applicable
Overall, do you feel the <i>PIRLS 2006 School Coordinator Manual</i> worked well or does it need improvement?	74%	15%	11%

### 7.3 Survey Activities Questionnaire

The *Survey Activities Questionnaire* was designed to elicit information about NRCs' experiences in preparing for and conducting the PIRLS 2006 data collection, with a focus on identifying and selecting samples, translating the test instruments, assembling and printing the test materials, packing and shipping the test materials, scoring constructed-response items, entering and verifying data, implementing the national quality assurance program, and suggesting improvements in the process. This section reports information gathered from the *Survey Activities Questionnaire*, reflecting the quality of the PIRLS 2006 survey materials and procedures in the participating countries.

To make this data collection more efficient, the questionnaire was administered to coordinators online. Out of 45 PIRLS 2006 participants, only the coordinator for Moldova did not complete the questionnaire.

#### 7.3.1 Sampling

The *Survey Activities Questionnaire* involved some questions about sampling schools and classes.

Exhibit 7.9 shows that 40 countries were able to select their samples using the manuals provided by the TIMSS & PIRLS International Study Center. Three countries answered that their sample was selected by Statistics Canada, even if

they actually sampled classes themselves. In one case (Qatar), no school or class sampling was necessary because the PIRLS' sample included the entire target population. Almost all the countries used the Within-school Sampling Software provided by the IEA Data Processing and Research Center (DPC) to select classes. In the two cases where the sampling software was not used, countries chose to use their own software because they felt their experience using this software would make the process more efficient.

Eight NRCs encountered organizational constraints in their systems that necessitated deviations from the sample design. In each case, the Statistics Canada sampling expert was consulted to ensure that the altered design remained compatible with the PIRLS standards.

**Exhibit 7.9 Results of the Survey Activities Questionnaire — Sampling**

Question	Yes	No	Not Answered
Were you able to select a sample of schools and students within schools using the manuals provided by the TIMSS & PIRLS International Study Center?	40	4	1
Did you use the Within-School Sampling Software provided by the IEA Data Processing and Research Center to select classes or students?	42	2	1
Were there any conditions or organizational constraints that necessitated deviations from the basic PIRLS sampling design?	8	36	1

### 7.3.2 Translating the Test Instruments

Exhibit 7.10 reports NRCs' answers to some of the questions about translating the test instruments. In translating the test passages and items, NRCs generally reported using their own staff or a combination of their staff and outside experts. The majority used their own staff for translating the background questionnaires. Almost all NRCs reported that they had gone through the process of external translation verification of passages, items, and background questionnaires organized by the IEA Secretariat. Luxembourg reported that to improve response rates they also administered the *Learning to Read Survey* for parents in French and Portuguese, even though only the German version was submitted for verification.

**Exhibit 7.10 Results of the Survey Activities Questionnaire — Translating the Test Instruments**

Question	Own Staff	Outside Translator(s)	Outside Reviewer(s)	Combination	Not Answered
Did you use your own staff or outside experts to translate the passages and items?	12	8	1	23	1
Did you use your own staff or outside experts to translate the background questionnaires?	23	2	0	19	1

	Yes	No	Not Answered
Did you go through the process of external translation verification of the passages and items by the IEA?	43	0	2
Did you go through the process of external translation verification of the background questionnaires by the IEA?	43	1	1

### 7.3.3 Assembling and Printing the PIRLS 2006 Instruments

The NRCs were asked to answer some questions about assembling and printing the test materials, as well as issues related to checking the materials and securely storing them.

The results in Exhibit 7.11 show that almost all NRCs were able to assemble the test booklets according to the instructions provided and that all countries went through the process of external layout verification of the test booklets by the TIMSS & PIRLS International Study Center. All countries except one conducted the recommended quality control checks during the printing process. In the one case, the NRCs did not conduct quality assurance procedures during the printing process due to a shortage of time. Eleven countries detected errors during the printing process that were fixed before sending the tests for administration.

All countries but one reported having followed procedures to protect the security of the tests during assembly and printing. One country was concerned that the potential exists for a breach of security because information was exchanged via email. However, steps are taken by using password protected secure sites developed by the IEA DPC for sharing data files between the NRCs and the IEA DPC, IEA Secretariat, and the TIMSS & PIRLS International Study Center.

**Exhibit 7.11 Results of the Survey Activities Questionnaire — Assembling and Printing the PIRLS 2006 Instruments**

Question	Yes	No	Not Answered
Were you able to assemble the test booklets according to the instructions provided by the TIMSS & PIRLS International Study Center?	43	1	1
Did you go through the process of external layout verification of the test booklets by the TIMSS & PIRLS International Study Center?	44	0	1
Did you conduct the quality assurance procedures for checking the test booklets during the printing process?	43	1	1
Were any errors detected during the printing process?	11	33	1
If errors were detected, what was the nature of the errors?			
Poor print quality	5	4	36
Pages missing	6	4	35
Page order	4	6	35
Upside down pages	7	0	38
Did you follow procedures to protect the security of the tests during the assembly and printing process?	43	1	1
Did you discover any potential breaches of security?	1	43	1

### 7.3.4 Packing and Shipping the Testing Materials

Some questions in the questionnaire addressed the extent to which NRCs detected errors in the testing materials as they were being packed for shipping to School Coordinators. However, as shown in Exhibit 7.12, very few errors were found in any of the materials, and NRC reported that these were remedied.

**Exhibit 7.12 Results of the Survey Activities Questionnaire — Packing and Shipping the Testing Materials**

Question	No Errors, or Not Used	Errors Found Before Distribution	Errors Found After Distribution	Not Answered
<b>In packing the assessment materials for shipment to schools, did you detect any errors in any of the following items?</b>				
Supply of test booklets	34	3	5	3
Supply of <i>Student Questionnaires</i>	37	2	3	3
Supply of <i>Learning to Read Surveys</i>	40	2	0	3
Student Tracking Forms	37	2	3	3
Teacher Tracking Forms	41	1	0	3
<i>Test Administrator Manual</i>	38	1	3	3
<i>School Coordinator Manual</i>	41	1	0	3
Supply of <i>Teacher Questionnaires</i>	41	1	0	3
<i>School Questionnaire</i>	40	2	0	3
Test booklet ID labels	35	5	2	3
Sequencing of booklets or questionnaires	40	2	0	3
Return labels	42	0	0	3
Self-addressed postcards for test dates	42	0	0	3

### 7.3.5 Scoring Constructed-response Items

The *Survey Activities Questionnaire* collected information from the NRCs about preparation for scoring the constructed-response items as well as the actual implementation of this complex task. The scoring process was an ambitious effort, requiring recruiting and training scoring staff to score student responses, including independent double scoring of a representative sample of responses to verify scoring reliability.

Exhibit 7.13 indicates that almost all NRCs understood the procedures for scoring the reliability sample, as explained in the *Survey Operations Manual*. In one case, it turned out that the scoring and questions related to data entry were answered by the data manager instead of the NRC by mistake. Thus, this person was not informed about scoring procedures.

Three NRCs reported that their own staff scored the constructed-response items, 17 reported that teachers did the scoring, 6 reported that university students were employed, and 16 reported that a combination of various professionals scored the constructed-response items.



Thirty-eight countries reported that they completed the cross-country reliability scoring, as instructed by the TIMSS & PIRLS International Study Center. Three countries had some time- and money-related problems in completing the task. Two countries could not find two English-speaking scorers, and, thus, only one person did the cross-country reliability scoring.

Only the trend countries that participated in PIRLS 2001 were asked to perform the trend reliability scoring, and almost all of them completed this task, as instructed by the TIMSS & PIRLS International Study Center. One country used a different software than the one provided by the IEA DPC. Three countries had failed to scan their PIRLS 2001 test booklets and, thus, did not have the student answers to use for scoring purposes. One country could not overcome some technical problems, and two countries did not complete the trend reliability scoring due to financial problems.

**Exhibit 7.13 Results of the Survey Activities Questionnaire — Scoring Constructed-response Items**

Question	Own Staff	Teachers	University Students	Combination of Scorers	Other	Not Answered
Who primarily scored your constructed-response items?	3	17	6	16	2	1

Question	Yes	No	Not Answered
Do you understand the procedure for scoring the within-country reliability sample, as explained by the TIMSS & PIRLS International Study Center?	43	1	1
Did you perform the Cross-country Reliability Scoring, as described by the TIMSS & PIRLS International Study Center?	38	5	2
Did you perform the Trend Reliability Scoring, as described by the TIMSS & PIRLS International Study Center?	21	7	17

### 7.3.6 Data Entry and Verification

Exhibit 7.14 shows that two thirds of the NRCs reported that they entered the data from a percentage of test booklets twice as a verification procedure. The estimated proportion of booklets to be entered twice ranged from 5 to 30 percent, with one country reporting that they re-entered 100 percent of the data. All NRCs established a secure storage area for the returned tests after data entry.

**Exhibit 7.14 Results of the Survey Activities Questionnaire — Data Entry and Verification**

Question	Yes	No	Not Answered
Did you enter a percentage of test booklets twice as a verification procedure?	30	13	2
Did you use the Windows Data Entry Manager software provided by the IEA Data Processing and Research Center to enter your test instrument data?	38	5	2
Where the returned tests stored in a secure area after scoring and data entry until the original documents could be discarded?	44	0	1

### 7.3.7 National Quality Assurance Program

As part of the national quality assurance activities, NRCs were required to send National Quality Control Observers to 10 percent of the participating schools to observe the test administration and document compliance with prescribed procedures. The last section of the *Survey Activities Questionnaire* addressed preparation for and implementation of the national quality assurance program.

As shown in Exhibit 7.15, all the national centers used the *National Quality Control Monitor Manual* provided by the TIMSS & PIRLS International Study Center in order to conduct their quality assurance program. Six NRCs reported that an external agency would conduct the classroom observations, 19 reported that a member of their staff would do so, and 7 reported that a combination of staff and external agency people would conduct the observations. Eleven NRCs reported that other professionals, such as inspectors, retired teachers, mathematics and science supervisors, or ministry representatives were recruited to conduct the quality assurance observations.

**Exhibit 7.15 Results of the Survey Activities Questionnaire — National Quality Assurance Program**

Question	An External Agency	Members of the National Center	A Combination of Observers	Other	Not Answered
Who conducted the classroom observations?	6	19	7	11	2

Question	Yes	No	Not Answered
When conducting your own quality assurance program, did you use the <i>National Quality Control Monitor Manual</i> provided by the TIMSS & PIRLS International Study Center?	44	0	1

## References

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