

### 5.1.1

To standardize survey operations procedures, the TIMSS & PIRLS International Study Center worked with the IEA Secretariat, the IEA Data Processing and Research Center (DPC), and Statistics Canada to develop survey operations procedures for each stage of the assessment, including contacting schools and sampling classes, preparing materials for data collection, administering the assessment, scoring

participants, while meeting the high quality standards of IEA.

Each National Center, under the direction of its National Research Coordinator (NRC), was responsible for the implementation of TIMSS Advanced in that country. The NRC was the contact person for all those involved in TIMSS Advanced within the country, as well as the representative of the country at the international level. The

contribution that the NRCs made was crucial to successful survey administration.

#### **D** **m**

The TIMSS Advanced Survey Operations Procedures were described in five units, each accompanied by additional materials (e.g., more specialized manuals and software packages), if necessary. All materials were organized and distributed according to different stages of the study.



## Communicating with Schools

One of the essential first steps in the TIMSS Advanced survey activities was to establish good working relationships with the schools that had been sampled to participate in the study (for more information on all sampling procedures, please refer to Chapter 4). NRCs were responsible for contacting these schools and encouraging them to take part in the assessment. This often involved obtaining support from national or regional educational authorities, depending on the national context.

In cooperation with school principals, national centers identified and trained School Coordinators for all participating schools. The School Coordinator could be a teacher or guidance counselor in the school, but not a teacher of the students who were being assessed. Several national centers had their own personnel fill this role, assigning them several schools in an area. School coordinators were provided with a



## Linking Student Data to Teacher Data

To track students, teachers, classes, and schools, a system of hierarchical identification codes (IDs) was set up. The hierarchical identification numbers that uniquely identify the selected schools, classes, students, and teachers were created by the WinWIS software, as shown in Exhibit 5.2.



Since in some cases a teacher might have taught more than one sampled class in a given school, it was necessary to have a unique identification number to distinguish the combinations of teacher and class. This was achieved by creating a two-digit link number so that, in combination with the teacher ID, insured student data were linked to the appropriate teacher data.

## Instrument Development

The TIMSS Advanced achievement booklets and questionnaires were developed using the Adobe® InDesign® layout program. The TIMSS & PIRLS International Study Center provided countries with all the necessary instrument-production files, including fonts, style guides, graphics files, and explicit instructions (Appendix 2) on how to use the materials in order to produce high quality test instruments.

The goal of the test instrument preparation was to create internationally comparable assessment booklets and background questionnaires that were appropriately adapted for the national context. is began with translating the text of the test instruments from English into the language(s) used in the participating countries. All the translated contents of the test instruments (i.e., item blocks, introductory texts, cover pages, and questionnaires) were submitted to IEA for international translation verification, where independent translators provided suggested changes in the texts (for more information on translation and national adaptations of the TIMSS Advanced test instruments, please refer to Chapter 3).

Once the translation verification was done and the changes implem

As a result of the translation process, the test instruments from the participating countries varied in text length. The international versions, however, were designed with extra space in the margins to accommodate the use of longer texts and different sized paper without extensive layout changes. All deviations or errors were documented in the layout verification report forms and sent to the NRCs for their consideration. NRCs were expected to comment on whether or not each of the suggested changes had been made, and to include an explanation if a suggestion was not adopted.

The entire development and production process was designed to ensure that students from different countries experienced the test instruments in the same way, apart from the translation of text.

### **5.3 A m e r i c a n I n t e r n a t i o n a l A s s e s s m e n t 2008 A m e r i c a n**

Once they were printed, distributing the materials to the schools required careful organization.











Physics student background file contained responses recorded from the

Student achievement file contained responses from the test booklets.

Reliability scoring file contained codes from the constructed-response reliability scoring sheets.

Quality control throughout the data entry process was essential in maintaining accurate data. Therefore, NRCs were responsible for performing periodic reliability checks during the data entry and for

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