

# Translation and Translation Verification

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## Introduction

This chapter describes the procedures and activities related to countries' preparation of national versions of the TIMSS and PIRLS assessment instruments, focusing on two major activities:

- Translation and adaptation of the international version of the TIMSS and PIRLS tests and questionnaires into national survey languages; and
- International verification of the national translations/adaptations.



## TIMSS 2011 Arabic Translation

Beginning with TIMSS 2007, the TIMSS & PIRLS International Study Center also provided the TIMSS tests and questionnaires in an Arabic-language version, which was used as a basis for adaptation by countries administering the assessment in Arabic. The translation was developed through an extensively collaborative process between teams of expert translators and reviewers familiar with the terminology used in specific school subjects in different Arabic-speaking countries. This process ensured that the translation was accurate and could be adequately adapted for the varying country contexts.

The preparation of instruments in Arabic was carried out through a collaborative process of translation and review managed by the IEA Secretariat, in cooperation with Brantra (an independent translation agency based in Brussels, Belgium) and staff at the TIMSS & PIRLS International Study Center and IEA Data Processing and Research Center.

Primary work on the Arabic translation of the TIMSS 2011 field test instruments was conducted by a group of skilled translators from different Arabic-speaking countries. The translators prepared an initial translation of the international English version of the TIMSS 2011 fourth and eighth grade field test instruments (student achievement test and questionnaires for students, teachers, and school principals). Following translation, a panel of experts with considerable collective experience in the specific school subjects at the target grades reviewed and revised the translation, paying particular attention to the conformity of terminology with usage in school textbooks in a variety of Arabic-speaking countries. Next, the panel compiled a comprehensive list of explanatory notes, identifying any translation and adaptation issues for further attention and highlighting where certain terms might necessitate adaptation for the national context. After the field test and prior to the TIMSS 2011 assessment, the Arabic translation was reviewed and updated, as necessary, by the same teams of translators and reviewers. To facilitate this work, the translators were provided with a list of changes made to the international version as a result of the field test, which needed to be implemented in the Arabic translation.

Production files of the Arabic achievement booklets and background questionnaires are prepared using the Middle Eastern Version of Adobe InDesign. The TIMSS & PIRLS International Study Center imported the Arabic translations from Word/RTF into InDesign using CopyFlow Gold and applied fonts, styles, and graphics. The instruments then underwent a thorough review by staff at the TIMSS & PIRLS International Study Center to

ensure that translations had been placed correctly and the layout resembled the international version.

## The Target Language

For most countries, identifying the language of the assessment (the “target” language) is relatively straightforward. is typically the dominant language used in both the public and private arenas of society. Some countries, however, use more than one language of instruction in their education systems.

in their assessment language(s). These procedures entail responsibilities at both the national and international level. At the national level, countries are responsible for translating and/or adapting the international achievement tests and questionnaires according to TIMSS and PIRLS international guidelines, conducting an internal review of their appropriateness and quality, and documenting their adaptations for reference at later stages. Even for those countries whose survey language is English, adaptations are required to suit the variation of English used in the national context. Similarly, countries using the provided Arabic translation for the TIMSS assessment are expected to implement adaptations as necessary to conform to national usage and context.

At the international level, each country's translated and adapted materials undergo translation verification at the IEA Secretariat. The verifiers provide detailed feedback to improve the accuracy and comparability of the instruments. Following each round of verification, NRCs are tasked with reviewing the feedback, revising their materials as needed, and updating their documentation for use during data processing and analysis.

The same general procedures are followed prior to the field test and then again before assessment data collection, with the exception of a separate verification procedure for items designed to measure trends from previous cycles. (Please click to view the [TIMSS and PIRLS 2011 Schedule of Instrument Translation and Translation Verification](#))

Essential qualifications for translators include:

Excellent knowledge of English;

Excellent knowledge of the target language;

Experience in the country's cultural context; and, if possible,

Experience translating texts in the subject areas related to the TIMSS and PIRLS assessments (mathematics, science, and literary texts, respectively).

Since reviewers are responsible primarily for assessing the translation's readability and accuracy for the target population, they are expected to have experience with students in the target grade (preferably as a school teacher), in addition to excellent knowledge of both languages and the country's cultural context.

NRCs often need to hire several translators and reviewers per target grade and language in order to distribute the work, but are responsible for maintaining the consistency of the translations within and across instruments. Countries administering the assessment in more than one language are strongly advised to involve professionals competent in the various languages to ensure the consistency of the adaptations across the different language versions.

### **Guidelines for Translation and Adaptation**

The general purpose of translation and adaptation is to maintain the same meaning and level of difficulty as the international version while following the rules of the target language and the country's cultural context. This is also the case for: countries that adapt the English, international version of the TIMSS and PIRLS instruments to usage in their particular context; countries that adapt the Arabic translation to their national context; and countries that adapt the translation developed by another country to their national context.

In particular, translators and reviewers are asked to ensure that:

The translation is at an appropriate level for the target population;

No information is omitted, added, or clarified in the translated text;

The translated text has the same meaning and uses equivalent terminology as the international version;

The translated text has the same register (language level and degree of formality) and level of difficulty as the international version;



Certain terms are not to be changed beyond translation, such as proper names of actual people and places, as well as the fictional currency “zed” (which is used in the TIMSS items about money). To help standardize the most common adaptations across countries, the TIMSS & PIRLS International Study Center prepares specific examples of acceptable and unacceptable adaptations, including a list of measurement conversions.

### **Translation and Adaptation of the Questionnaires**

In contrast to the achievement test, the questionnaires include a number of terms that require adaptation by participating countries, to ensure that questions are appropriate for the education system and national context. NRCs replace the terms designated in angle brackets in the international version with their country-specific information. For example, <fourth grade> and <language of test> would be adapted to the name of the actual grade and language in which the achievement test is being administered—for example, with “Primary 4” and “English” in Singapore. In addition to these kinds of overarching adaptations, some terms related to specific aspects of teaching and learning are also designated for adaptation. For instance, NRCs adapt <in-service/professional development> with the term that denotes the supplemental training provided to teachers during their professional careers—for example, “qualification development” in Lithuania. Items asking about levels of education use the current version of the International Standard Classification of Education (ISCED) system, ISCED 1997, and also require adaptation to the equivalent educational terms for each country.

The translation and adaptation guidelines provided to countries include a detailed description of the intention of each required adaptation in order to clarify the terms used and help translators select the appropriate word or



## Trend Assessment Blocks of Items

For the purpose of measuring changes in student achievement over time, certain achievement blocks are carried over from one cycle to the next (see Instrument Development in TIMSS and PIRLS). It is imperative to the quality of the trend measurement that these “trend blocks” from the previous cycle are administered in exactly the same way. Countries that participated in TIMSS 2007, TIMSS 2003, PIRLS 2006, and/or PIRLS 2001 were required to use the exact same translations of the trend blocks in 2011 that they had used in the previous assessment.

If a country determines that changes to the trend blocks are absolutely necessary (for instance, in order to correct an error discovered in an earlier translation), the changes are carefully documented and reviewed. The changed item, however, is not included in the trend analyses for that participant.

For countries not participating in trend comparisons, preparation of the trend blocks follows the same general procedure as preparation of the newly developed assessment blocks for the current cycle.

## The National Adaptation Form

The National Adaptation Form (NAF) is designed in Excel format to contain the complete translation, adaptation, and verification history of each set of national instruments. The form is completed and reviewed at various stages of the instrument preparation process.

NRCs are required to document all national adaptations in the NAF, and to prepare one NAF for each language and set of instruments. The first version of the NAF is filled out during translation and adaptation in a collaborative effort among the translator(s), reviewer(s), and NRC. The translator and reviewer document the adaptations made, which the NRC subsequently reviews and consolidates. After each round of international verification, an updated version of the NAF is prepared that includes comments from the verifiers and the NRC.

The information collected about national adaptations includes identifying information (question number and/or location), a back translation of the adaptation in English, and recoding instructions (if applicable). Where adaptations are required, they are listed in the NAF in angle brackets for easy visibility and review. The NAF includes designated areas for each instrument, item, and respondent so that at all stages the verification outcomes are clearly labeled and easy to interpret.

Because they are used throughout translation and verification, the NAFs are an important record of each country’s national instruments. After data

collection, the NAFs are used by the International Quality Control Monitors to review the implementation of verification feedback (see Survey Operations and Quality Assurance in TIMSS and PIRLS). NAFs also are referenced when adding national data to the international database and during data analysis.

## International Translation Verification

Once the instruments are translated and internally reviewed, the translations of the covers and directions, achievement blocks, and questionnaires are submitted for international translation verification. This process is managed by the IEA Secretariat in coordination with an external translation verification company, cApStAn Linguistic Quality Control (based in Brussels, Belgium).

### Translation Verifiers

International translation verifiers for TIMSS and P/Sp1111(M)Ri P03PSS Uspioribe(a)6(e)71(, )

and consistency of adaptations within and across instruments. The translation verification process involves:

Checking the accuracy, linguistic correctness, and comparability of the translation and adaptations of the achievement tests and questionnaires;

Documenting any deviations between the national and international versions, including additions, deletions, and mistranslations; and

Suggesting an alternative translation/adaptation to improve the accuracy and comparability of the national instruments.

The feedback from translation verification is provided in both the instruments and the NAF. Verifiers are asked to correct and/or note specific errors directly in the text of the tests and questionnaires (using the “Track Changes” function in Microsoft Word or “Sticky Notes” in Adobe PDF, depending on the format of the submitted instruments). Key comments on deviations in the translation/adaptation are entered in the NAF. To help NRCs understand the comparability of the translated text with the international version, all comments are accompanied by a code to indicate the severity and type of deviation. In addition, verifiers are required to review any adaptations reported by the NRC in the NAF, and to provide an evaluation of their adequacy.

## Codes Used in Verification Feedback

The international translation verifiers aim to provide meaningful feedback to help NRCs, TIMSS & PIRLS International Study Center staff, and other members of the study consortium understand the quality and comparability of the translated/adapted instruments. To standardize the verification feedback across countries, verifiers are asked to assign a code to each intervention, indicating the nature and severity of the issue identified. These codes are accompanied by explanatory information and corrections or suggestions for improvement, if applicable. The criteria for coding are as follows:

- **1** indicates a major change or error. Examples include the omission of a question or answer option; incorrect translation resulting in the answer being suggested by the question; incorrect translation that changes the meaning or difficulty of the passage or question;

- indicates an incorrect order of questions or answer options in a multiple-choice question.

- In case of doubt, verifiers are instructed to use *Code 1?* so that the error can be referred to the TIMSS & PIRLS International Study Center for further consultation if needed.

- indicates a minor change or error, such as a spelling or grammar error that does not affect comprehension.

- is used when the verifier considers the translation adequate, but suggests an alternative wording.

- indicates an adaptation that is acceptable and appropriate. For example, a reference to winter is changed from January to July for a country in the Southern Hemisphere.

## Verification of the Trend Assessment Blocks

Because it is essential that the trend items not be changed, the international verification procedure for the main data collection instruments includes a ‘trend check’ for all countries participating in trend comparisons. This involves:

- Checking the identicalness of each of the trend items for the current cycle with the trend items as they were administered in the previous cycle; and
- Documenting any differences in content.

A special form is provided for verifiers to describe any discrepancies found and the nature of the change. Their feedback is provided to NRCs for careful review, along with the instruction to discuss any proposed changes with the TIMSS & PIRLS International Study Center.

## Outcomes and Summary for TIMSS and PIRLS 2011

Like its predecessors, the 2011 cycle of TIMSS and PIRLS incorporated stringent procedures for translation and translation verification to ensure the high quality and international comparability of the instruments prepared by participating countries. Comprehensive guidelines informed NRCs of their responsibilities in this process, from appointing skilled and experienced translators, to ensuring the NAF’s accuracy as a record of all national adaptations. In addition to the internal review carried out by each country, instruments underwent a rigorous international verification of the translations and adaptations by well-trained and experienced verifiers.

In general, countries complied very well with the requirements for translation verification, including the procedures for submission, documentation, and review (post-verification).

Some typical errors identified for improvement during translation verification included mistranslations, inconsistencies (literal vs. synonymous matches, adaptation of ISCED levels, mathematical symbols), omissions/additions, adaptations of names (fictional vs. real), style (gender6s(d)-10(e)-10(91)-10(3 1 Ty)-177(r)

Results from translation verification indicate that the national instruments were of very high quality overall, striking a good balance between faithfulness and fluency, and accompanied by well-prepared and complete documentation.

This was particularly evident during the verification of the final assessment; verifiers reported that countries' translations had been prepared with great care, benefitting from the detailed feedback provided during the field test verification.