

## CHAPTER 2

# Updating the PIRLS 2021 Instruments for Describing the Contexts for Student Learning

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### Introduction

Since the first PIRLS assessment in 2001, each PIRLS cycle has collected information from participating countries about the national, home, school, and classroom contexts in which students learn to read. These data are collected to enable exploration of factors that are related to reading achievement both across and within countries. Such data are valuable to both countries and secondary researchers.

The learning contexts addressed in the PIRLS 2021 context questionnaires instruments are outlined in the [PIRLS 2021 Context Questionnaire Framework](#) (Mullis, Martin, & Liu, 2019). PIRLS 2021 is the fifth PIRLS administration. Similar to previous PIRLS assessments, in PIRLS 2021:

- The Home, School, Teacher, and Student Context Questionnaires were administered with the reading assessment.
- Portions of the [PIRLS 2021 International Results in Reading](#) are devoted to reporting the data collected via the Context Questionnaires.
- The [PIRLS 2021 Encyclopedia](#) summarizes countries' responses to the PIRLS 2021 Curriculum Questionnaire and contains country-specific chapters describing reading curriculum and general education policies. The PIRLS 2021 Encyclopedia also provided countries with an opportunity to describe how the COVID-19 pandemic influenced both their educational systems and PIRLS 2021 data collection.

## Description of the PIRLS 2021 Context Questionnaires

This section describes the PIRLS 2021 Home, School, Teacher, Student, and Curriculum Questionnaires, including intended respondents, content covered, and mode of administration. The PIRLS 2021 context questionnaires can be viewed in their entirety on the [PIRLS 2021 Context Questionnaires page](#). The Home, School, Teacher, and Student questionnaires include a number of scales (typically including 6-9 items) that measure particular constructs related to reading achievement. Many of these scales were included in previous PIRLS cycles. The scales included in each questionnaire are listed in this section. New and modified scales are noted; all other were brought forward in their entirety from PIRLS 2016. Although not all scales are reported in the [PIRLS 2021 International Results in Reading](#), they are all available in the [PIRLS 2021 International Database](#).

### Home Questionnaire (Early Learning Survey)

The Home Questionnaire (known as the “Learning to Read Survey” in previous PIRLS cycles) was administered to parents or guardians of students participating in PIRLS. Topics covered include home resources for learning; parents’ education and employment, parents’ enjoyment of reading and their opinions about the child’s school, the child’s attendance in preprimary education programs, emphasis on literacy and numeracy activities in the home before the child attended school (such as reading books, singing songs, writing words and numbers, and counting), and an estimate of the level of the child’s literacy skills when beginning primary school. Specific to PIRLS 2021, respondents were also asked to indicate if the child stayed home from school because of the COVID-19 pandemic, as well as the at-home learning resources provided by the child’s school during this time and their perceptions on how the child’s learning progress had been affected by the COVID-19 pandemic. Countries asked students’ parents or guardians to complete the questionnaire online or sent it to the students’ homes in paper-and-pencil format.

The Home Questionnaire includes the following scales:

- Could Do Early Literacy Tasks When Beginning Primary School (*modified*)
- Home Early Literacy and Numeracy Activities Before Primary School (*modified*)
- Home Socioeconomic Status (*new*)
- Home Resources for Learning (also includes items from the Student Questionnaire)
- Parents’ Perceptions of Their Child’s School
- Parents Like Reading

## School Questionnaire

The School Questionnaire was administered to the principals of students' schools. Topics include the availability of instructional resources, the socioeconomic background of the students attending the school, the school's emphasis on academic success, need for discipline, and the principals' education. Specific to PIRLS 2021, principals also indicated the number of weeks during the 2020-2021 school year that normal primary school operations were impacted by the COVID-19 pandemic, as well as the remote learning resources that the school provided to students and teachers during these times. Countries administered the questionnaire either online or via paper-and-pencil.

The School Questionnaire includes the following scales:

- Instruction Affected by Reading Resource Shortages (*modified*)
- School Discipline
- School Emphasis on Academic Success (also included in the Teacher Questionnaire)

## Teacher Questionnaire

The Teacher Questionnaire was administered to students' teachers. Topics include teachers' education, professional development, and career satisfaction, as well as students' readiness for instruction, frequency of various instructional activities, assessment practices, and availability of digital devices for instruction. Countries administered the Teacher Questionnaire either online or via paper-and-pencil.

The Teacher Questionnaire includes the following scales:

- Classroom Teaching Limited by Students Not Ready for Instruction (*modified*)
- Safe and Orderly Schools (*modified*)
- School Emphasis on Academic Success (also included in the School Questionnaire)
- Teachers' Job Satisfaction (*modified*)

## Student Questionnaire

The Student Questionnaire was administered to students to gather information about their educational experiences at home and school related to reading. The questionnaire also asked students about their self-efficacy for using digital devices and their attitudes towards reading. Students that participated in digitalPIRLS completed the questionnaire online and students that participated in paperPIRLS completed a paper-and-pencil version of the questionnaire.

The Student Questionnaire includes the following scales:

- Disorderly Behavior During Reading Lessons (*new*)
- Digital Self-Efficacy (*new*)

- Student Bullying (*modified*)
- Students Confident in Reading
- Students Engaged in Reading Lessons
- Students Like Reading
- Students' Sense of School Belonging

## Curriculum Questionnaire

The Curriculum Questionnaire was administered to the National Research Coordinators (NRCs) of participating countries. This questionnaire collected information about national curriculum policies and practices related to the countries' educational systems and reading curricula. The Curriculum Questionnaire was administered online.

## Updates to the PIRLS 2021 Context Questionnaires and Encyclopedia Chapters

Many scales and items in the PIRLS 2021 Home, School, Teacher, and Student Questionnaires were brought forward (sometimes with modifications) from PIRLS 2016. However, some new topics were added to the questionnaires to address important areas of current research, such as digital literacy and use of digital devices in reading instruction, as well as the global COVID-19 pandemic. The PIRLS 2021 Curriculum Questionnaire and outline for countries' *Encyclopedia* chapters were also updated and reorganized to reflect these newer areas of interest and facilitate more intuitive reporting.

There are many similarities between the TIMSS and PIRLS context questionnaires, and some of the updates made to the PIRLS 2021 Questionnaires were carried over from the TIMSS 2019 Questionnaires. For the Home Questionnaire, these included items to improve coverage of early numeracy activities and an item about how often the language of the PIRLS assessment is spoken at home. Additions to the Student Questionnaire included an expanded *Student Bullying* scale with items focused on cyberbullying, a new *Disorderly Behavior During Reading Lessons* scale measuring students' perceptions of classroom management and climate.

Many countries transitioned to a digital version of the PIRLS assessment for PIRLS 2021, which includes special ePIRLS tasks that emphasize online reading for information. Given this context, PIRLS 2021 renewed efforts to collect data about technology use for instruction and assessment. The School Questionnaire asked principals about the availability of technology resources, such as digital learning resources (e.g., digital books). Teachers were asked about using digital devices to support students during reading instruction, and whether students complete reading assessments using digital devices. The Student Questionnaire included a new *Digital Self-Efficacy* scale, as well as several items asking how much time students spend using digital devices for school-related tasks.

Perhaps the most important and universal factor impacting students' learning contexts during PIRLS 2021 was the global COVID-19 pandemic. Items were added to the Home and School Questionnaires to gather information about the duration of changes to students' typical schooling experiences, as well as students' participation in remote learning. Items about responsibility for closing and opening schools within countries were also added to the Curriculum Questionnaire.

PIRLS 2021 also retired and reorganized content within the Curriculum Questionnaire and countries' *Encyclopedia* chapters. Several topics were moved from the *Encyclopedia* chapters to the Curriculum Questionnaire, including the countries' language(s) of instruction and additional education requirements for reading teachers. Several topics deemed to be outdated were deleted from the Curriculum Questionnaire, such as policies for student tracking and the process for approving instructional materials. The early childhood education section of the Curriculum Questionnaire was reorganized in order to increase applicability and clarity across different countries' contexts.

## Schedule of Activities for Updating the PIRLS 2021 Instruments for Describing Contexts for Student Learning

Exhibit 2.1 presents the schedule for updating the PIRLS 2021 context questionnaire instruments. The process formally began in February 2018 at the 1st PIRLS 2021 NRC meeting and ended with finalizing the Curriculum Questionnaire in April 2020. Because of complexities introduced by the COVID-19 pandemic, countries' PIRLS 2021 data collection dates were spread over two and a half years.

**Exhibit 2.1: PIRLS 2021 Schedule of Activities for Context Questionnaires**

Date(s)	Group and Activity
February 2018	NRCs reviewed the PIRLS 2016 context questionnaires, providing ideas for new topics that should be addressed in PIRLS 2021 (1 <sup>st</sup> NRC meeting—Hamburg, Germany)
March–January 2018–2019	TIMSS & PIRLS International Study Center drafted the PIRLS 2021 Context Questionnaire Framework and drafted the updated PIRLS 2021 field test home, school, teacher, and student questionnaires
February 2019	QDG reviewed the draft PIRLS 2021 Context Questionnaire Framework and draft PIRLS 2021 field test home, school, teacher, and student questionnaires (1 <sup>st</sup> QDG meeting—Liege, Belgium)
February–March 2019	NRCs reviewed the draft PIRLS 2021 Context Questionnaire Framework online
April 2019	TIMSS & PIRLS International Study Center published PIRLS 2021 Assessment Frameworks, including the PIRLS 2021 Context Questionnaire Framework
June 2019	NRCs reviewed the draft home, school, teacher, and student questionnaires (3 <sup>rd</sup> NRC Meeting—Rome, Italy)
June–August 2019	TIMSS & PIRLS International Study Center finalized the field test home, school, teacher, and student questionnaires, incorporating suggestions from the NRCs
September 2019	TIMSS & PIRLS International Study Center provided the PIRLS 2021 field test questionnaires to countries for translation
March–June 2020	Countries conducted the PIRLS 2021 Field Test
April–July 2020	Countries submitted field test data to IEA Hamburg for cleaning and processing

**Exhibit 2.1: PIRLS 2021 Schedule of Activities for Context Questionnaires (Continued)**

Date(s)		Group and Activity
June	2020	TIMSS & PIRLS International Study Center analyzed the field test data and reviewed the results
July	2020	QDG reviewed questionnaires with field test results and proposed revisions to the home, school, teacher, and student questionnaires (2 <sup>nd</sup> QDG meeting—virtual)
July–August	2020	TIMSS & PIRLS International Study Center incorporated QDG suggestions into the questionnaires
August	2020	NRCs reviewed the proposed PIRLS 2021 home, school, teacher, and student questionnaires outline (5 <sup>th</sup> NRC meeting—virtual)
August	2020	TIMSS & PIRLS International Study Center distributed the PIRLS 2021 Home, School, Teacher, and Student Questionnaires to NRCs for translation and verification
October–December	2020	Southern Hemisphere countries conducted PIRLS 2021 Data Collection with fourth grade students
February	2021	NRCs reviewed the proposed PIRLS 2021 Curriculum Questionnaire and Encyclopedia chapter outline (6 <sup>th</sup> NRC meeting—virtual)
March–June	2021	Northern Hemisphere countries conducted PIRLS 2021 Data Collection with fourth grade students
April–January	2021–2022	NRCs responded to the online PIRLS 2021 Curriculum Questionnaire
August–November	2021	Postponed Southern Hemisphere countries conducted PIRLS 2021 Data Collection with fourth grade students
September–November	2021	Postponed Northern Hemisphere countries conducted PIRLS 2021 Data Collection with fifth grade students
October–February	2021–2022	NRCs submitted their PIRLS 2021 Encyclopedia chapters to the TIMSS & PIRLS International Study Center
April–June	2022	Postponed Northern Hemisphere countries conducted PIRLS 2021 Data Collection with fourth grade students

## Overview of the Updating Process

The TIMSS & PIRLS International Study Center at Boston College follows a collaborative and iterative process to update the PIRLS questionnaires for each assessment cycle. This involves updating the previous cycle’s Context Questionnaire Framework and questionnaires and conducting several iterations of review, as well as a field test. Minor revisions were made to the questionnaires based on the field test results and final reviews were conducted prior to data collection.

National Research Coordinators (NRCs) played a key role in reviewing the PIRLS 2021 context questionnaires. They provided feedback and proposed new topics at NRC meetings throughout the development process, including at the first PIRLS 2021 NRC meeting, as well as the NRC meetings before the field test and prior to PIRLS 2021 data collection.

The PIRLS 2021 Questionnaire Development Group (QDG) consisted of NRCs with experience and expertise in education policy analysis and survey development. Members of the QDG reviewed updates to the [PIRLS 2021 Context Questionnaire Framework](#) and assisted in revising the context questionnaires. This included conducting an online review and attending two group meetings—an in-person meeting prior to the field test and a virtual meeting prior to data collection. Members of the PIRLS 2021 QDG are listed in Exhibit 2.2.

**Exhibit 2.2: PIRLS 2021 Questionnaire Development Group (QDG)**

**Anne Matoul**  
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**Belgium (French)**

**Hwa Wei Ko**  
Graduate Institute of Learning and Instruction  
National Central University  
**Chinese Taipei**

**Kaisa Leino**  
Finnish Institute for Educational Research  
University of Jyväskylä  
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**Megan Chamberlain**  
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**New Zealand**

**Beti Lameva**  
National Examination Center  
**North Macedonia**

**Fathia Mohammed Amour Al Mawali**  
Ministry of Education  
**Oman**

**Surette van Staden**  
Centre for Evaluation and Assessment (CEA)  
University of Pretoria  
**South Africa**

**Bridget Dalton**  
University of Colorado—Boulder  
**United States**

## Reviewing the Field Test Results for the PIRLS 2021 Context Questionnaires

The field test allows for an empirical evaluation of the Home, School, Teacher, and Student Questionnaire instruments and measurement scales before data collection. The field test also gives countries an opportunity to ensure the items are appropriately translated and adapted to their national contexts, which is particularly important for newly developed items (see [Chapter 5: Systems and Instrument Verification for PIRLS 2021](#)).

Following the PIRLS 2021 Field Test, the TIMSS & PIRLS International Study Center analyzed the field test data, consisting of responses from: 1) 8,247 parents or caregivers to the Home Questionnaire, 2) 356 principals to the School Questionnaire, 3) 668 teachers to the

Teacher Questionnaire, and 4) 12,888 students to the Student Questionnaire.<sup>1</sup> The TIMSS & PIRLS International Study Center produced data almanacs containing item statistics for each questionnaire item, including the percentage of students responding to each response option, with the corresponding average student reading achievement. Context questionnaire scale summaries were also produced to evaluate the suitability of the items for scaling with one parameter item response theory (Rasch) model. The scales were evaluated for unidimensionality, reliability, and their relationships with achievement. More information about the PIRLS 2021 context questionnaire scales and their measurement properties can found in [Chapter 15: Creating and Interpreting the PIRLS 2021 Context Questionnaire Scales](#).

The TIMSS & PIRLS International Study Center reviewed the field test results and updated the questionnaires as necessary for the final round of reviews by the PIRLS 2021 QDG and NRCs.

## Reference

Mullis, I. V. S., Martin, M. O., & Liu, J. (2019). PIRLS 2021 context questionnaire framework. In I. V. S. Mullis & M. O. Martin (Eds.), *PIRLS 2021 assessment frameworks* (pp. 27-56). Retrieved from Boston College, TIMSS & PIRLS International Study Center website: <https://timssandpirls.bc.edu/pirls2021/frameworks/>

<sup>1</sup> These sample sizes are smaller than field tests from previous cycles of PIRLS because of field test administration disruptions caused by the COVID-19 pandemic. Data were obtained from 19 countries for the School, Teacher, and Student Questionnaires, with data from 16 countries retained for analysis. For the Home Questionnaire, data were obtained from 17 countries and data were retained from 15 for analysis.