

# Introduction

## PIRLS 2016—Monitoring Trends in Reading Literacy Achievement

Because developing reading literacy ability is vital to every student's growth and maturation, the International Association for the Evaluation of Educational Achievement, more widely known as IEA, has been conducting regular international assessments of reading literacy and the factors associated with its acquisition in countries around the world for more than 50 years.

IEA is an independent international cooperative of national research institutions and government agencies that has been conducting studies of cross-national achievement since 1959. IEA pioneered international comparative assessment of educational achievement in the 1960s to gain a deeper understanding of policy effects across countries' different systems of education.

PIRLS (Progress in International Reading Literacy Study) was inaugurated in 2001 as a follow-up to IEA's 1991 Reading Literacy Study. Conducted every five years, PIRLS assesses the reading achievement of young students in their fourth year of schooling—an important transition point in children's development as readers. Typically, at this point in their schooling, students have learned how to read and are now reading to learn. PIRLS is designed to complement IEA's TIMSS assessments of mathematics and science at the fourth grade.

PIRLS 2016 is the fourth assessment in the current trend series, following PIRLS 2001, 2006, and 2011. Over 60 countries and sub-national, benchmarking entities are participating in PIRLS 2016, including many that have participated in previous assessment cycles since 2001. For countries with data since 2001, PIRLS 2016 will provide the fourth in a series of trend measures collected over 15 years. These countries will have the opportunity to evaluate progress in reading achievement across four time points: 2001, 2006, 2011, and 2016.

Since its inception, PIRLS has been a collaborative effort among the participating countries and IEA. PIRLS is directed by the TIMSS & PIRLS International Study Center at Boston College in close cooperation with the IEA Secretariat in Amsterdam and IEA's Data Processing and Research Center in Hamburg. Statistics Canada monitors and implements sampling activities,

the National Foundation for Educational Research (NFER) in England and the Australian Council for Educational Research (ACER) provide support for item development, and Educational Testing Service consults on psychometrics.

## History of the PIRLS, PIRLS Literacy, and ePIRLS International Assessments

The number of countries participating in PIRLS has grown with each assessment cycle. All of the countries, institutions, and agencies involved in successive PIRLS assessments have worked collaboratively to improve PIRLS and build the most comprehensive and innovative measure of reading comprehension possible.

Participants have worked equally hard to provide information about the educational contexts for learning to read in each country so that PIRLS data are an extremely useful resource for policy relevant information about improving reading achievement. PIRLS always has included school, teacher, and student questionnaires, and PIRLS 2001 pioneered the Learning to Read Survey, completed by students' parents or caregivers, as well as the PIRLS Encyclopedia, comprised of chapters written by each participating country describing its reading curriculum and instruction.

In 2006, PIRLS was expanded to report results by comprehension processes in addition to literary and informational reading purposes. Also, greater emphasis was given to the PIRLS Curriculum Questionnaire completed by each participating country.

In 2011, the PIRLS and TIMSS assessment cycles came together, providing a unique opportunity for countries to collect reading, mathematics, and science achievement data on the same fourth grade students. Also in 2011, IEA broadened PIRLS to meet the needs of countries in which most children in the fourth grade are still developing fundamental reading skills. For example, if students are more likely to have developed the reading comprehension competencies necessary for success on PIRLS by the fifth or sixth grade, IEA began encouraging participation in PIRLS at those grades. Additionally, IEA provided a less difficult version of the PIRLS reading assessment for fourth grade students (called prePIRLS). The international results for the PIRLS 2011 assessments were published in two reports: *PIRLS 2011 International Results in Reading* (Mullis, Martin, Foy, & Drucker, 2013) and *TIMSS and PIRLS 2011: Relationships Among Reading, Mathematics, and Science Achievement at the Fourth Grade—Implications For Early Learning* (Martin & Mullis, 2013).

PIRLS 2016 represents the most significant changes in PIRLS to date, because it encompasses two new assessments of reading comprehension, PIRLS Literacy and ePIRLS, which are described in the following sections.

### PIRLS Literacy

The PIRLS Literacy assessment is equivalent to PIRLS in scope and reflects the same conception of reading as PIRLS, except it is less difficult overall. PIRLS Literacy 2016 includes some passages and items that also are included in PIRLS 2016, but most of the assessment is based on shorter passages with higher proportions of more straightforward questions.

The purpose of the PIRLS Literacy assessment is to provide better measurement at the lower end of the scale. Countries whose fourth grade students are still developing fundamental reading skills can participate in the PIRLS Literacy assessment and still have their results reported on the PIRLS achievement scale. The reading passages and questions in common between the PIRLS Literacy and the PIRLS assessments will enable the two assessments to be linked, so that the PIRLS Literacy assessment results can be reported together with the PIRLS assessment results and directly compared to them (for details, see Chapter 3).

Depending on a country's educational development and the students' reading level, countries can participate in either or both PIRLS and PIRLS Literacy. One approach would be to participate in PIRLS Literacy at the fourth grade and PIRLS at the sixth grade. The goal is to provide the best policy-relevant information about how to improve teaching and learning and to help young students become accomplished and self-sufficient readers.

### ePIRLS

ePIRLS is an innovative assessment of online reading, designed to be responsive to the information age and provide important information about how well students are developing 21<sup>st</sup> century skills. Internet reading increasingly is becoming one of the central ways students are acquiring information (Leu, Kinzer, Coiro, Castek, & Henry, 2013; Leu, O'Byrne, Zawilinski, McVerry, & Everett-Cacopardo, 2009; Murnane, Sawhill, & Snow, 2012). The Internet also is becoming the central source for students to gather additional information in their school subjects, such as science and social studies. As students have begun to rely on the Internet, reading curricula around the world are beginning to emphasize the importance of developing online reading skills and competencies such as reading for information (see *PIRLS 2011 Encyclopedia*).

For countries participating in PIRLS 2016, ePIRLS expands PIRLS to include computer-based reading assessment. ePIRLS uses an engaging, simulated Internet environment to present fourth grade students with authentic school-like assignments involving science and social studies topics. An Internet browser window provides students with websites containing information about their assignments, and students navigate through pages with a variety of features, such as photos, graphics, multiple tabs, and links. In an assessment window, a teacher avatar guides students through the ePIRLS assignments, prompting the students with questions about the online information. The development of the ePIRLS approach to assessing online reading benefited greatly from the work of ORCA (the Online Reading Comprehension Assessment), where students research science issues in an online environment (see Leu, Kulikowich, Sedansk, & Coiro, 2008).

## Updating the PIRLS 2016 Framework for Assessing Reading Achievement

Based on reading purposes and comprehension processes, the PIRLS framework provides the foundation for the PIRLS, PIRLS Literacy, and ePIRLS assessments of students' reading achievement.

PIRLS assesses students' reading achievement within the two overarching purposes for reading that account for most of the reading done by young students both in and out of school:

- Reading for literary experience; and
- Reading to acquire and use information.

The PIRLS assessments integrate four types of comprehension processes within each of the two purposes for reading:

- Focus on and retrieve explicitly stated information;
- Make straightforward inferences;
- Interpret and integrate ideas and information; and
- Evaluate and critique content and textual elements.

Updating the PIRLS framework with each assessment cycle provides participating countries opportunities to introduce fresh ideas and current information about curricula, standards, frameworks, and instruction. This keeps the frameworks educationally relevant, creates coherence from assessment to

assessment, and permits the framework, instruments, and procedures to evolve gradually into the future.

For PIRLS 2016, the framework was updated using information provided by the National Research Coordinators (NRCs) from the participating countries in the *PIRLS 2011 Encyclopedia* (Mullis, Martin, Minnich, Drucker, & Ragan, 2012). In addition, the PIRLS 2016 reading expert committee (Reading Development Group) provided direction. Using an iterative process, the framework, under the direction of the committee, was once again reviewed by the NRCs and updated a final time prior to publication.

## Policy Relevant Data about the Contexts for Learning to Read

In order to provide an important context for interpreting the reading achievement results, PIRLS collects considerable background information about how educational opportunities are provided to students as well as the factors that influence how students use these opportunities. These background data include information about the following: national curriculum policies in reading and how the educational system is organized to facilitate learning; students' home environment for learning; school climate and resources; and how instruction actually occurs in classrooms (see Chapter 2).

The PIRLS Encyclopedia has been published with each assessment cycle since 2001. Each PIRLS country prepares a chapter summarizing the structure of its education system, the language and reading curriculum in the primary grades, and overall policies related to reading instruction (e.g., teacher education, instructional materials, and assessment). The *PIRLS 2011 Encyclopedia* is a valuable compendium of information about how reading is taught around the world and provides an indispensable resource for policy and research in comparative education.

In order to obtain the background information that is published together with the PIRLS achievement results, PIRLS asks students, their parents, their teachers, and their school principals to complete questionnaires about their home, school, and classroom contexts for learning to read. In particular, the Learning to Read Survey, completed by students' parents and caregivers, has been an important component of each assessment cycle of PIRLS since 2001. It provides valuable information about students' home support for early literacy learning and reading experiences. Also, the student questionnaire contains

a series of questions about students' behaviors and attitudes toward reading literacy, because these are an important part of lifelong reading and contribute to the full realization of the individual's potential within a literate society (Organisation for Economic Cooperation and Development, 1995; 1997; 2000; 2005; 2010).

The upcoming PIRLS 2016 assessment will collect and report data on a variety of activities and experiences from the following range of learning to read contexts:

- National and community;
- Home;
- School;
- Classroom; and
- Student.

As a result, the assessments will provide a dynamic picture of reading educational policies and practices across the participating countries that can raise issues and indicate avenues relevant to educational improvement efforts.

## Using PIRLS Data for Educational Improvement

As reported in the *PIRLS 2011 Encyclopedia*, countries use PIRLS data for system-level monitoring of education achievement in a global context. They compare their reading achievement levels and contexts for learning with those of other countries, and monitor progress in reading achievement over time. Many countries reported initiating educational reforms when PIRLS achievement results were low compared to other countries, or lower than expected. That is, many countries also view the PIRLS results in the context of national goals.

Working to achieve equity provided another impetus for reform and a number of countries reported having made special efforts to reduce achievement disparities among ethnic, social, or regional groups. Countries implementing educational changes typically look to future PIRLS assessment cycles to monitor improvement.

PIRLS data, framework, released items, and scoring guides often are used as a basis for updating curriculum and textbooks, as well as for improving classroom instruction, primarily through teacher workshops and training programs. Many countries reported increased sponsorship of reading research

activity, including research using PIRLS data, and several have established national reading centers.

Introduced for the current TIMSS assessment cycle, TIMSS 2015 also includes a new, less difficult mathematics assessment called TIMSS Numeracy. Together, PIRLS Literacy and TIMSS Numeracy are intended to be responsive to the needs of the global education community and can support efforts that work toward universal primary education. As debates shift from *access* for all to *learning* for all, both assessments can provide a much-needed means for countries and international organizations to effectively measure and thereby improve reading and mathematics learning outcomes for young students worldwide.