

Introduction

The *PIRLS 2021 Encyclopedia: Education Policy and Curriculum in Reading* presents a profile of reading and language instruction in PIRLS 2021 countries and benchmarking systems. Representatives from each country and benchmarking participant completed the PIRLS 2021 curriculum questionnaire and prepared a chapter describing the country's education system and reading curriculum, as well as the educational challenges and innovations arising from the COVID-19 pandemic. Together, the curriculum questionnaire data and country chapters present a concise yet rich portrait of reading education around the world.

The PIRLS 2021 countries differ from one another in fundamental ways, including their education systems, and these differences are important to acknowledge when interpreting the PIRLS achievement results. The *PIRLS 2021 Encyclopedia* provides information about these differences and serves as a more qualitative companion to the PIRLS 2021 student achievement results. For PIRLS 2021, the *Encyclopedia* also includes information about the COVID-19 pandemic across countries. This important contextual information can be used by researchers, policymakers, and educators in conjunction with the PIRLS 2021 achievement results to inform education policy and curricula around the world.

Organization of the PIRLS 2021 Encyclopedia

The *PIRLS 2021 Encyclopedia* includes two different types of data: exhibits showing results from the PIRLS 2021 curriculum questionnaire, and chapters prepared by individual countries and benchmarking participants.

Curriculum Questionnaire Exhibits

Each cycle of PIRLS includes a curriculum questionnaire to collect background information about language/reading curricula and education policies from each country and benchmarking participant. Data from this questionnaire support the encyclopedia chapters by providing information about these topics in a format that is comparable across countries and benchmarking systems.

The *PIRLS 2021 Encyclopedia* includes ten exhibits presenting information from the curriculum questionnaire about different aspects of countries' education systems:

- Exhibit 1: Years of Schooling
- Exhibit 2: National Policies on Age of School Entry and Promotion
- Exhibit 3: Official Languages and Languages of Instruction
- Exhibit 4: Status of the Fourth Grade Language/Reading Curriculum

- Exhibit 5: Purposes for Reading Emphasized in the Intended Language/Reading Curriculum
- Exhibit 6: Digital Reading Skills Emphasized in the Intended Language/Reading Curriculum
- Exhibit 7: Policies/Statements About Digital Literacy in the Language/Reading Curriculum
- Exhibit 8: Main Preparation Routes and Current Requirements for Fourth Grade Teachers
- Exhibit 9: Main Preparation Routes and Current Requirements for Principals of Schools with Fourth Grade Students
- Exhibit 10: Level of Government Responsible for Decision-Making During the COVID-19 Pandemic

Complete data from the PIRLS 2021 curriculum questionnaire will be available for download in the *PIRLS 2021 International Database*.

Country Chapters

Each chapter in the *PIRLS 2021 Encyclopedia* was written by a representative (or representatives) of a PIRLS 2021 country or benchmarking system, including experts from ministries of education, research institutes, and institutions of higher education, all with extensive knowledge about each country's education system. Chapters provide more in-depth information about the structure of countries' education systems, national use and impact of PIRLS results, language/reading curricula, teacher professional development, monitoring student progress in reading, and special reading initiatives. For PIRLS 2021, chapters also include information about the impact of the COVID-19 pandemic on countries' education systems.



Demographic and Economic Characteristics of the PIRLS 2021 Countries

The PIRLS 2021 countries are geographically and economically diverse, as shown in the following table *Selected Characteristics of the PIRLS 2021 Countries*. These data are taken primarily from the World Bank's DataBank, a repository of databases that include a range of economic, education, and human development indicators.

The PIRLS 2021 countries vary widely in population size and geographic area. There is also some variation in life expectancy at birth, although this is 70 years or higher in all but one country. Economic indicators, such as the gross national income per capita (in US dollars), also show great variation across countries, ranging from 78,290 USD in Norway to 1,740 USD in Uzbekistan as of June 2022. With respect to public expenditure on education, countries spend anywhere from 2% (Bahrain) to 8% (Denmark, Norway, and Sweden) of their gross domestic product (GDP). Enrollment in primary education is relatively high, with all of the PIRLS 2021 countries having an enrollment rate greater than 80%, and many having an enrollment rate greater than 95%.

Selected Characteristics of PIRLS 2021 Countries

Country	Population Size (in millions)	Area of Country (1,000 square kilometers)	Life Expectancy at Birth (years)	Infant Mortality Rate (per 1,000 live births)	Gross National Income (GNI) per Capita (in US Dollars)	GNI per Capita PPP (in international dollars)	Gini Index of Income Inequality (0=perfect equality; 100=perfect inequality)	Public Expenditure on Education (% of GDP)	School Enrollment		Primary Student-Teacher Ratio
									Preprimary (% one year before primary entry age)	Primary (% of relevant group)	
¹ Albania	2.8	29	79	9	5,210	13,190	30.8	4	77	95	18
[†] Australia	25.7	7,741	83	3	53,680	52,230	34.3	5	86	96	15
[†] Austria	8.9	84	81	3	48,360	55,620	30.2	5	100	89	12
Azerbaijan	10.1	87	73	17	4,480	14,390	–	3	74	92	15
Bahrain	1.7	0.8	77	6	19,900	40,660	–	2	70	97	12
Belgium (Flemish and French)	11.5	31	81	3	45,800	53,650	27.2	6	98	99	11
^{2†} Brazil	212.6	8,516	76	13	7,850	14,550	48.9	6	87	96	20
Bulgaria	6.9	111	74	5	9,630	24,100	40.3	4	81	86	15
^{3†} Canada	38.0	9,880	82	4	43,540	46,050	33.3	3	–	100	16
⁴ Chinese Taipei	23.2	36	81	4	29,153	–	34.0	–	75	98	12
Croatia	4.0	88	78	4	14,530	28,890	28.9	4	95	88	14
Cyprus	1.2	9	81	2	26,440	37,030	31.2	6	98	97	12
[†] Czech Republic	10.7	79	78	2	22,070	40,160	25.3	4	90	89	19
[†] Denmark	5.8	43	82	3	63,010	62,260	27.7	8	98	99	12
⁵ Egypt	102.3	1,001	72	17	3,000	12,220	31.5	3	37	97	24
⁶ England	56.6	130	80	4	39,830	45,870	35.1	5	100	99	21
[†] Finland	5.5	338	82	2	49,800	51,410	27.7	6	97	99	14
[†] France	67.4	549	82	3	39,500	47,730	32.4	5	100	99	19
Georgia	3.7	70	74	8	4,260	14,050	34.5	4	96	96	9
[†] Germany	83.2	358	81	3	47,520	56,370	31.7	5	99	90	15
⁷ Hong Kong SAR	7.5	1	85	2	48,630	62,500	54.0	4	97	95	13
[†] Hungary	9.8	93	76	3	15,890	32,190	30.0	5	87	91	10
⁸ Iran	84.0	1,745	77	11	2,960	13,310	40.9	4	64	100	29
[†] Ireland	5.0	70	82	3	65,750	71,040	30.6	3	99	96	15
[†] Israel	9.2	22	83	3	42,610	39,090	38.6	6	100	97	15
[†] Italy	59.4	302	82	3	32,360	42,420	35.2	4	93	96	11
Jordan	10.2	89	75	13	4,310	10,330	–	3	45	81	19
⁹ Kazakhstan	19.6	2,725	71	9	8,710	24,410	27.8	3	90	100	17
¹⁰ Kosovo	1.8	11	71	9	4,440	11,570	29.0	4	–	–	14
[†] Latvia	1.9	65	75	3	17,890	31,470	34.5	4	98	96	12
[†] Lithuania	2.8	65	75	3	19,620	37,760	35.3	4	97	98	14
Macao SAR	0.6	0.03	84	2	75,690	117,450	–	3	89	96	13
Malta	0.5	0.3	83	6	25,860	38,640	31.0	5	99	100	13
Montenegro	0.6	14	76	2	7,900	20,310	36.8	–	77	97	–
¹¹ Morocco	36.9	447	77	16	3,020	7,260	–	7	65	99	27
[†] Netherlands	17.4	42	81	4	51,070	58,240	29.2	5	99	99	16
[†] New Zealand	5.1	268	82	4	42,870	43,030	–	6	94	99	16
¹² North Macedonia	2.1	26	76	5	5,750	16,280	33.0	3	49	95	15
¹³ Northern Ireland	1.9	14	81	4	39,830	45,870	35.1	5	100	99	22
[†] Norway (5)	5.4	365	83	2	78,290	65,500	27.7	8	97	100	10
¹⁴ Oman	4.5	310	78	8	15,030	28,850	–	5	45	98	12
[†] Poland	37.9	313	77	4	15,260	33,040	30.2	5	95	96	10

All data were retrieved from The World Bank DataBank in June 2022 unless otherwise noted. Source: <http://databank.worldbank.org>.
All data are for the most recent year available.
A dash (–) indicates data not provided.

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2021
Downloaded from <https://pirls2021.org/encyclopedia/download>

Selected Characteristics of PIRLS 2021 Countries (Continued)

Country	Population Size (in millions)	Area of Country (1,000 square kilometers)	Life Expectancy at Birth (years)	Infant Mortality Rate (per 1,000 live births)	Gross National Income (GNI) per Capita (in US Dollars)	GNI per Capita PPP (in international dollars)	Gini Index of Income Inequality (0=perfect equality; 100=perfect inequality)	Public Expenditure on Education (% of GDP)	School Enrollment		Primary Student-Teacher Ratio
									Preprimary (% one year before primary entry age)	Primary (% of relevant group)	
[†] Portugal	10.3	92	81	3	21,810	33,640	32.8	5	94	98	12
Qatar	2.9	11	80	5	55,990	88,070	–	3	91	94	12
[†] Russian Federation	144.1	17,098	71	4	10,690	29,110	36.0	5	90	95	24
[†] Saudi Arabia	34.8	2,150	75	6	21,930	47,790	–	–	50	95	15
Serbia	6.9	88	74	5	7,430	18,510	34.5	4	91	95	14
¹⁵ Singapore	5.7	0.7	84	2	64,010	102,450	–	3	97	100	15
[†] Slovak Republic	5.5	49	77	5	18,920	31,000	23.2	4	84	83	17
[†] Slovenia	2.1	20	81	2	25,340	39,420	24.4	5	94	98	11
^{16†} South Africa	59.3	1,219	64	26	6,010	13,140	61.8	7	18	87	30
[†] Spain	47.4	506	82	3	27,360	37,980	34.3	4	95	97	14
[†] Sweden	10.4	447	82	2	54,050	56,740	29.3	8	100	99	13
[†] Türkiye	84.3	785	78	8	9,050	26,900	41.9	4	76	88	18
¹⁷ United Arab Emirates	9.9	99	78	6	39,410	66,690	26.0	4	75	95	25
^{18†} United States	331.5	9,832	77	5	64,140	64,210	41.5	3	90	95	15
Uzbekistan	34.2	449	72	13	1,740	7,710	–	5	46	95	22
Benchmarking Participants											
¹⁹ Ontario, Canada	14.2	892	82	4	–	–	–	–	–	–	–
¹⁹ Quebec, Canada	8.5	1,298	83	4	–	–	–	–	–	–	–
²⁰ Moscow City, Russian Fed.	12.6	3	78	5	–	–	–	–	–	–	–
²¹ Abu Dhabi, UAE	2.9	67	79	6	–	–	–	–	–	–	–
²² Dubai, UAE	3.5	4	82	5	–	–	–	–	–	–	–

All data were retrieved from The World Bank DataBank in June 2022 unless otherwise noted. Source: <http://databank.worldbank.org>.

All data are for the most recent year available.

A dash (–) indicates data not provided.

[†] Primary student-teacher ratio taken from OECD for most recent year available.

¹ Preprimary net enrollment ratio taken from UNESCO (2018).

² Preprimary net enrollment ratio taken from UNESCO (2019).

³ Public expenditure on education taken from OECD (2018).

⁴ Available data taken from National Statistics, R.O.C. (Taiwan), National Statistics, Statistical Yearbook (2020), and Ministry of Education.

⁵ Public expenditure on education taken from UNESCO (2020).

⁶ GNI per Capita (in US Dollars), GNI per capita PPP (in international dollars), Gini Index, public expenditure on education, preprimary net enrollment ratio and primary net enrollment ratio reported for the United Kingdom. Other data taken from Department of Education and Office for National Statistics of the UK.

⁷ Infant mortality rate taken from Census and Statistics Department, Hong Kong Special Administrative Region (2021). Gini coefficient taken from Social Indicators of Hong Kong (2016).

⁸ Preprimary net enrollment ratio taken from UNESCO (2020).

⁹ Population taken from Bureau of National Statistics, Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2022). Primary net enrollment ratio taken from Bureau of National Statistics, Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2021).

¹⁰ Infant mortality rate taken from Eurostat (2019). Public expenditure on education taken from the Statistical Yearbook of the Republic of Kosovo (2020). Student-teacher ratio for primary education taken from Education Statistics in Kosovo 2020/21 (2021).

¹¹ Public expenditure on education taken from UNESCO (2020).

¹² Public expenditure on education taken from Statistical Review: National Economy and Finances (2016).

¹³ GNI per Capita (in US Dollars), GNI per capita PPP (in international dollars), Gini Index, public expenditure on education, preprimary net enrollment ratio and primary net enrollment ratio reported for the United Kingdom. Other data taken from Department of Education and Office for National Statistics of the UK for the most recent year available.

¹⁴ Population size, area of country, infant mortality rate, preprimary net enrollment ratio, primary net enrollment ratio, and primary student-teacher ratio taken from the Annual Educational Statistics Book (2021/2022) of the National Centre for Statistics & Information, Sultanate of Oman.

¹⁵ Preprimary net enrollment ratio taken from UNESCO Institute for Statistics (2020).

¹⁶ Gini coefficient taken from OECD (2017). Preprimary net enrollment ratio taken from UNESCO (2019).

¹⁷ Preprimary net enrollment ratio taken from UNESCO Institute for Statistics (2020).

¹⁸ Public expenditure on education taken from OECD (2018).

¹⁹ Available data taken from Statistics Canada.

²⁰ Available data taken from the Federal State Statistics Service of the Russian Federation.

²¹ Available data taken from the Statistical Yearbook of Abu Dhabi (2020).

²² Available data taken from Dubai Statistics Center.

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2021
Downloaded from <https://pirls2021.org/encyclopedia/download>

Highlights from the Curriculum Questionnaire

School Entry Policies

After entering primary school, children in many of the PIRLS 2021 countries can continue schooling for twelve to thirteen years, although compulsory school often ends after nine or ten years (see Exhibit 1). Children in the PIRLS 2021 countries most often begin primary school at age six, though specific policies differ across countries (for example, some policies state that children start school in the calendar year of their sixth birthday, while others require children to turn six by a particular date). There is some variation in the age at which students begin primary school across countries, with students in some countries beginning primary school at ages four, five, or seven (see Exhibit 2). Most of the PIRLS 2021 countries allow for some parental discretion on when children begin primary school, with policies typically allowing for slightly earlier or later entry depending upon the child's development.

Language of Instruction

The PIRLS 2021 countries differ in the variety of languages in which reading instruction is offered for fourth grade students. About one-third of countries offer reading instruction only in the country's official language(s). The other two-thirds of countries incorporate additional languages into reading instruction through a variety of means, including bilingual instruction that utilizes two languages, instruction in indigenous or other minority languages for particular communities, or allowing local schools to determine the language of instruction based on local language use. In some countries, the language of instruction also differs between public and private schools (see Exhibit 3).

Fourth Grade Language/Reading Curriculum

A large majority of the PIRLS 2021 countries have a national curriculum for fourth grade language/reading instruction. Reading is often incorporated into language instruction, although a small number of countries treat reading instruction as a separate curriculum area. Many countries' language/reading curricula were introduced to classrooms within the past ten years, and about half of the PIRLS 2021 countries are currently revising their language/reading curricula (see Exhibit 4). About half of the PIRLS 2021 countries' curricula specify a specific percentage of instructional time to be devoted to reading; among these, two-thirds of the countries' curricula specify that 25 percent of instructional time or more should be devoted to reading instruction.

Most countries' fourth grade language/reading curricula place at least some emphasis on four broad purposes of reading: improving reading skills and comprehension, literary experience, acquiring information, and enjoyment. Twenty-seven countries place a major emphasis on all four of these purposes (see Exhibit 5).

About two-thirds of the PIRLS 2021 countries' curricula place some emphasis on at least one of the following three digital reading skills: 1) strategies for reading digital texts, 2) looking up

information to research a topic online, and 3) critical evaluation of information on websites (see Exhibit 6). This finding is similar to PIRLS 2016. In addition, about half of the PIRLS 2021 countries have explicit statements about digital literacy in their fourth grade language/reading curricula. Of these, the majority also have one or more of the following: specific student goals or standards for digital literacy; recommendations or mandates for specific digital literacy curricular resources; recommendations or mandates for using digital devices in reading instruction; and safety or privacy requirements for use of digital devices (see Exhibit 7).

Teacher and Principal Preparation

A large majority of PIRLS 2021 countries require a university degree to become a teacher at the fourth grade. Many countries have additional teacher preparation routes that are common, including a specialized teaching program following a separate degree, a graduate degree, or a teacher's college or normal school degree. As was the case in PIRLS 2016, the majority of PIRLS 2021 countries require that prospective teachers complete a supervised practicum during their teacher preparation program, although the length of this practicum varies across countries. Over half of the PIRLS 2021 countries require passing a qualifying exam, completion of a probationary teaching period or completion of a mentoring or induction program for new teachers of fourth grade students (see Exhibit 8). Requiring completion of a mentoring or induction program for new teachers, in particular, has become more popular among the PIRLS countries since 2016.

The majority of PIRLS 2021 countries require that principals of schools with fourth grade students have teaching experience. Over half of the countries require completion of a specialized school leadership training program (see Exhibit 9).

COVID-19 Pandemic

Across the PIRLS 2021 countries, different authorities were responsible for different types of decisions related to the operation of schools during the COVID-19 pandemic. In over two-thirds of the PIRLS 2021 countries, decisions about closing or reopening schools were made at the national level, especially in the early part of the pandemic. In other countries, these decisions were made at the state/provincial or local levels. There was more variation across countries in the authority responsible for determining the format of remote instruction when schools were closed. In about one-third of the PIRLS 2021 countries, decisions about the format of remote instruction were made by individual schools, while in another third of the countries, these decisions were made at the national level. Decisions about the format of remote instruction were made at the state/provincial or local levels for the remaining countries. For many countries, there was considerable overlap in decision-making responsibility, with both national and local input for decisions about opening and closing schools, particularly as the pandemic progressed (see Exhibit 10).

Highlights from the Country Chapters

Reading Curricula in the PIRLS 2021 Countries

Improving children's reading skills is a high priority across the PIRLS 2021 countries, with many countries having national strategies to promote literacy development (e.g., the Language Council Reading Comprehension in Belgium's Flemish region, Croatia's National Strategy to Revive Book Reading). Countries' language/reading curricula emphasize reading for different purposes including the two overarching purposes central to PIRLS: literary and informational reading. Furthermore, the four processes of comprehension measured in PIRLS (focus on and retrieve explicitly stated information, make straightforward inferences, interpret and integrate ideas and information, and evaluate and critique content and textual elements) are well-represented across language/reading curricula of the PIRLS 2021 countries.

Many of the PIRLS 2021 countries' reading curricula are specified in terms of what students should be able to do by the end of a given grade (or set of grades). For example, the National Curriculum of the Republic of Azerbaijan states that by the end of the fourth grade, students should be able to "determine the main idea of the text and analyze the characters" and "retell the text in a creative form," among other skills. In France's curricula, skills that students should demonstrate are organized under broader categories, such as "build up the characteristics and specificities of literary genres" and "use experience and knowledge of the world to express a reaction, a point of view, or a judgment on a text or book," which are both grouped under "understand a literary text and make it his/her own." Latvia's language and reading curricula are organized around questions with which students should engage, including "How do you express your opinion and justify it?" and "How do the means and methods of expression used in literary and other works of art differ?"

Some of the PIRLS 2021 countries explicitly discuss digital reading skills in their language/reading curricula. Often the curricula only state that students should be able to read texts both in print and digitally; however, there are some countries with additional digital literacy specifications. For example, in Denmark, by the end of fourth grade students should be able to "find relevant information on age-appropriate websites and assess the relevance and credibility of that information."

Special Reading Initiatives

Because literacy development is a high priority across countries, many of the PIRLS 2021 countries' *Encyclopedia* chapters describe special initiatives to promote reading among primary school students. These programs often aim to increase the amount of time that students spend reading as well as improve students' attitudes towards reading. For example, in Ireland, children participate in programs such as Drop Everything and Read (DEAR) to create a sense of enjoyment from reading. In Finland, the Finnish Reading Center arranges author visits to schools to increase student engagement with books.

Some countries report reading initiatives that target families and emphasize parental involvement in the development of children's literacy skills. In Chinese Taipei, multiple programs aim to increase the amount of time parents spend reading to young children, including Bookstart (sponsored by libraries) and Reach Out and Read Taiwan, in which pediatricians teach parents the benefits of reading aloud to children. Another example of this is in New Zealand, where a program called Reading Together strives to promote coordination between parents and schools to improve students' reading achievement. In Poland, parents are also encouraged to read to their children through the All of Poland Reads to Kids initiative.

Some countries also host national festivals or celebrations to promote reading. For example, 2021 was Croatia's Year of Reading, which included a national book month and international book fair. Similarly, in Kazakhstan in 2021, the Year of Support for Children's and Youth Reading was announced, which highlighted notable works from Kazakhstani authors through national readings. Another prominent theme across PIRLS 2021 countries is national initiatives to provide books for students. In 2020, Uzbekistan provided over three million books to children as part of the Caravan of Enlightenment. Hong Kong SAR has an annual book fair that attracts hundreds of thousands of attendees and includes different exhibitions, seminars, and events.

Teacher Professional Development

Teachers are integral players in improving children's reading skills and teachers in many of the PIRLS 2021 countries have various opportunities for teacher professional development. Teacher professional development is offered through a variety of providers across countries, including government agencies and private organizations. Whether or not ongoing professional development is required and, if so, how many hours, varies across countries. For example, Australia has no national mandates for teacher professional development, but jurisdictions are free to set their own guidelines. Israel requires that primary school teachers complete at least 60 hours of professional development over the course of each school year. In the Czech Republic, teachers have the option to use up to 12 work days for professional development each school year.

In some countries, participation in professional development leads to career advancement for teachers. For example, in Georgia, teachers can earn a certain number of professional development credits to advance to the status of a senior teacher. Professional development hours are also required to move among the six teaching ranks in private schools in Macao SAR.

COVID-19 Pandemic

The COVID-19 pandemic has been an immense disruption to schooling worldwide. All of the PIRLS 2021 countries experienced some degree of school closure during the first half of 2020. In addition to this initial period, many countries had additional closures over the course of the following year as the pandemic situation evolved. For example, after fully reopening in September of 2020, England's schools closed again in the early months of 2021 before reopening in March. In some countries, additional school closures occurred at the regional level after the initial closures.

of early 2020. In Italy, primary schools in some regions were open for the entire 2020-2021 school year, while others were open for less than half of the days planned.

During periods of school closure, countries utilized various forms of remote instruction to minimize the disruption to students' education. Many countries opted for some form of online instruction, either through a videoconferencing software where students could interact with their teacher synchronously, or other online lessons and portals. The efficacy of these online strategies varied, and many countries reported that students of low socioeconomic status struggled to keep up with instruction. Online instruction was not the only format of remote instruction used in the PIRLS 2021 countries. For example, in Morocco, lessons were broadcasted to students via television. Television was also used to deliver lessons to students in South Africa, as well as regional radio.

Although the impact of the COVID-19 pandemic on students' long-term academic development remains to be seen, some of the PIRLS 2021 countries have made initial strides in evaluating the impact of the pandemic on student learning and other education indicators. An early analysis in Bulgaria found that students' digital skills improved after distance learning during the pandemic, but that social skills declined and students experienced high levels of distraction and low motivation. In Portugal, early work has found that students seem to show a lower level of academic performance in 2021 compared to before the pandemic in 2019.

Education policy changes in the PIRLS 2021 countries during the COVID-19 pandemic tended to focus on the permanent application of some form of online or digital learning, often with a goal of improving the accessibility of these resources for all students. For example, in the United States, school closures in response to the pandemic drew additional attention to the "digital divide" among families in different regions of the country. A similar divide was observed in Ireland, which led to supplementing an Information and Communications Technology (ICT) grant to purchase digital devices for students or support remote learning platforms.