Framework and Specifications for PIRLS Assessment 2001

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P I R L S

Progress in International Reading Literacy Study

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PREFACE

PREFACE

The ability to read is universally regarded as fundamental to all forms of personal learning and intellectual growth. In the modern world, a literate population is essential for a nation's social and economic development. Therefore, knowing how well their students can read and understanding how to improve reading achievement is of vital interest to policymakers and researchers in every country. It is for this reason that the IEA General Assembly has approved reading literacy as an essential component of its regular cycle of core studies, which also includes mathematics and science.

IEA, the International Association for the Evaluation of Educational Achievement, was founded in 1959 for the purpose of conducting

comparative studies focusing on educational policies and practices in various countries around the world. Over the past 40 years, IEA's membership has grown to more than 50 countries. It has a Secretariat located in Amsterdam, the Netherlands, and a data processing center in Hamburg, Germany. IEA studies have reported on a wide range of topics and subject matters, each contributing to a deep understanding of educational processes within individual countries and within a broad international context.

The IEA scheduled the data collection for its Progress in International Reading Literacy Study (PIRLS) for 2001 to coincide with the 10th anniversary of its 1991 Reading Literacy Study. As such, it provides an opportunity for countries to obtain a measure of trend from 1991. At the same time, however, PIRLS 2001 is intended to be the first in a continuing four-year cycle of trend studies in reading literacy, and has been designed at the outset to monitor progress in reading achievement into the future.

The PIRLS *Framework and Specifications* is intended as a blueprint for IEA's future work in assessing reading literacy. The framework grew from a collaborative process involving many individuals and groups – notably the PIRLS Reading Development Group (RDG), and the National Research Coordinators (NRCs) of the almost 40 countries participating in PIRLS. All told, the framework underwent several iterations in response to the comments and interests of the PIRLS countries and the reading research community, and embodies the ideas and interests of many individuals and organizations around the world.

Support for developing the PIRLS framework was provided by the National Center for Education Statistics of the U.S. Department of Education and the participating countries. The work contained in this document represents the efforts of a considerable number of people. I would like to express my thanks to the Reading Development Group, the PIRLS Reading Coordinator, Jay R. Campbell, the staff

involved from the National Foundation for Educational Research in England and Wales, the IEA Data Processing Center and Secretariat, Statistics Canada, and the International Study Center at Boston College, especially the Study Coordinator, Dana L. Kelly. I appreciate in particular the contribution of the National Research Coordinators, and of the PIRLS Study Directors, Ina V.S. Mullis and Michael O. Martin.

Hans Wagemaker
Executive Director, IEA

The International Study Center at Boston College

The International Study Center at Boston College is dedicated to conducting comparative studies in educational achievement. Principally, it serves as the International Study Center for IEA's studies in mathematics, science, and reading – the Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS). At the PIRLS International Study Center, the staff at Boston College is responsible for the design and implementation of the study. Developing and producing the PIRLS framework was a collaborative effort involving a series of reviews by the Reading Development Group, the Questionnaire Development Group, and the National Research Coordinators. The following were instrumental in this process, especially Jay Campbell, who had major responsibility for drafting and redrafting the framework as it evolved through the review process.

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International Association for the Evaluation of Educational Achievement (IEA)

In developing the framework and conducting PIRLS, the IEA has provided overall support in coordinating PIRLS with IEA's 1991 Reading Literacy Study and reviewing all elements of the design. The following persons are closely involved with PIRLS.

Hans Wagemaker
Executive Director

Barbara Malak
Manager, Membership Relations

Knut Schwippert
IEA Data Processing Center

Ursula Itzlinger
IEA Data Processing Center

National Foundation for Educational Research in England and Wales (NFER)

NFER has major responsibility for developing the PIRLS reading literacy test. As the leaders of the test development effort, the following persons made substantial contributions to the conceptual comments on the framework at various stages of its development.

Chris Whetton
Assistant Director

Marian Sainsbury
Principal Research Officer

Statistics Canada

Statistics Canada is responsible for all sampling activities in PIRLS, including developing sampling procedures and documentation, and assisting participants in adapting the PIRLS sampling design to local conditions. The following persons reviewed the framework from a methodological perspective, and made many helpful suggestions.

Pierre Foy
Senior Methodologist

Marc Joncas
Senior Methodologist

Reading Development Group

The Reading Development Group carefully reviewed and discussed each version of the PIRLS framework. The group made many perceptive comments and constructive suggestions, and contributed very substantially to the final document.

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Questionnaire Development Group

The Questionnaire Development Group, comprising six of the PIRLS National Research Coordinators, was instrumental in the design of the PIRLS questionnaires and provided thoughtful comments on the framework at various stages of its development.

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National Foundation for Educational Research in England and Wales
England

Maurice Walker
Ministry of Education
New Zealand

National Research Coordinators

The PIRLS National Research Coordinators work with international project staff to ensure that the study is responsive to their concerns, both policy-oriented and practical, and are responsible for implementing the study in their countries. NRCs reviewed successive drafts of the framework, and made numerous suggestions that greatly benefited the final document. A full list of NRCs is in Appendix A.

1

OVERVIEW OF PIRLS ASSESSMENT

The IEA and Reading Literacy

Reading literacy is one of the most important abilities students acquire as they progress through their early school years. It is the foundation for learning across all subjects, it can be used for recreation and for personal growth, and it equips young children with the ability to participate fully in their communities and the larger society.

Because it is vital to every child's development, the International Association for the Evaluation of Educational Achievement (IEA) has undertaken an investigation of children's reading literacy and the factors associated with its acquisition in countries around the world. The IEA's Progress in International Reading Literacy Study (PIRLS) focuses on the achievement of young children (ages 9 and 10 years) and the experiences they have at home and school in learning to read. Designed to measure trends in reading literacy achievement, the first PIRLS assessment will take place in 2001, with future assessments planned for 2005 and 2009.

Throughout the framework, various sources that have provided a research and scholarly basis for the framework are referenced and cited in the endnotes. These references are only a sample of the volumes of literature and research that have informed the PIRLS framework.

IEA's 1991 Reading Literacy Study served as a foundation for PIRLS. It provided a basis for the PIRLS definition of reading literacy and for establishing the framework and developing the assessment instruments.[1] Although the 1991 study provided the groundwork for PIRLS, the PIRLS framework and instruments are new and reflect the IEA's commitment to be forward-thinking and incorporate in PIRLS the latest approaches to measuring reading literacy.

Many of the countries participating in PIRLS 2001 also participated in the 1991 study. These countries will be able to measure trends in reading achievement from 1991 to 2001 by administering the 1991 test to a sample of students in 2001, in addition to administering the PIRLS assessment.

A Definition of Reading Literacy

In naming its 1991 study, the IEA decided to join the terms reading and literacy to convey a broad notion of what the ability to read means – a notion that includes the ability to reflect on what is read and to use it as a tool for attaining individual and societal goals. "Reading literacy" is again used for PIRLS, as it remains the appropriate term for what is meant by "reading" and what the study is assessing.

In developing a definition of reading literacy to serve as the basis for PIRLS, the IEA looked to its 1991 study, in which reading literacy was defined as "the ability to understand and use those written language forms required by society and/or valued by the individual." The Reading Development Group (RDG) elaborated on this definition for PIRLS, so that it applies across ages yet makes explicit reference to aspects of the reading experience of young children. For PIRLS, reading literacy is defined as

> the ability to understand and use those written language forms required by society and/or valued by the individual. Young readers can construct meaning from a variety of texts. They read to learn, to participate in communities of readers, and for enjoyment.

This view of reading reflects numerous theories of reading literacy as a constructive and interactive process.[2] Readers are regarded as actively constructing meaning and as knowing effective reading strategies and how to reflect on reading. They have positive attitudes toward reading and read both for recreation and to acquire information. Meaning is constructed in the interaction between reader and text in the context of a particular reading experience. The reader brings a repertoire of skills, cognitive and metacognitive strategies, and background knowledge. The text contains certain language and structural elements and focuses on a particular topic. The context of the reading situation promotes engagement and motivation to read, and often places specific demands on the reader.

Overview of Assessment Areas and Weightings

PIRLS focuses on three aspects of reading literacy:

- processes of comprehension;
- purposes for reading; and
- reading behaviors and attitudes

Processes of comprehension and purposes for reading are the foundation for the PIRLS written assessment of reading comprehension. Figure 1 portrays the interaction of the two: each process is assessed within each purpose for reading. The percentages of the test devoted to each of the processes and purposes are shown in Figure 2. The written assessment is discussed in detail in the next section and example reading passages and items are presented in Appendix B.

Figure 1: PIRLS Reading Assessment – Reading Purposes and Processes

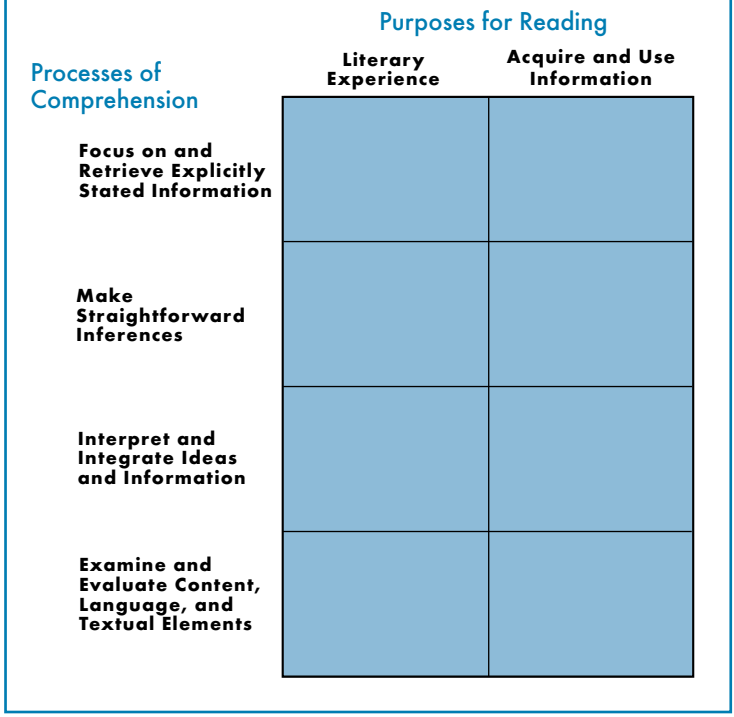


Figure 2: Percentages of Reading Assessment Devoted to Reading Purposes and Processes

Purposes for Reading	
Acquire and Use Information	50%
Literary Experience	50%
Processes of Comprehension	
Focus on and Retrieve Explicitly Stated Information	20%
Make Straightforward Inferences	30%
Interpret and Integrate Ideas and Information	30%
Examine and Evaluate Content, Language, and Textual Elements	20%

A student questionnaire will address students' attitudes towards reading and their reading habits. In addition, questionnaires will be given to students' parents, teachers, and school principals to gather information about students' home and school experiences in developing reading literacy. To provide information about national contexts, an encyclopedia of reading education in each country will be compiled.

Student Population Assessed

PIRLS will assess the reading literacy of children ages 9 and 10 years old. The target population is defined as "the upper of the two adjacent grades with the most 9-year-olds." In most countries, this is the fourth grade. This population was chosen for PIRLS because it is an important transition point in children's development as readers. Typically, at this point, students have learned how to read and are now reading to learn.

By assessing the fourth grade, PIRLS is providing data that will complement the IEA's Trends in International Mathematics and Science Study (TIMSS, formerly named the Third International Mathematics and Science Study), which regularly assesses achievement at fourth and eighth grades. By participating in PIRLS and TIMSS, countries will have information at regular intervals about how well their students read and what they know in mathematics and science. PIRLS also complements another international study of student achievement, the OECD's Programme for International Student Assessment (PISA), which assesses the reading literacy of 15-year-olds. In Appendix C, the similarities and differences between PIRLS and PISA are discussed in more detail.

2 PIRLS ASPECTS OF READING LITERACY

PIRLS examines three aspects of reading literacy: processes of comprehension, purposes for reading, and reading literacy behaviors and attitudes. These aspects are described separately in the following sections; however, they do not function in isolation from each other or from the contexts in which students live and learn. The first two aspects, processes of comprehension and purposes for reading, form the basis of the written test of reading comprehension. The last aspect, behavior and attitudes, will be addressed by the student questionnaire.

Processes of Comprehension

Readers construct meaning in different ways.[3] They focus on and retrieve specific ideas, make inferences, interpret and integrate information and ideas, and examine or evaluate text features. Transcending these processes are the metacognitive processes and strategies that allow readers to examine their understanding and adjust their approach. In addition, the knowledge and experience that readers bring to reading equip them with an understanding of language, texts, and the world through which they filter their comprehension of the material.

The four types of comprehension processes are described below. They are used in the PIRLS assessment to develop the comprehension questions for the passages presented to students. Across the assessment, a combination of questions, each dealing with one of the processes, enables students to demonstrate a range of abilities and skills in constructing meaning from written texts. Along with each process and its components, examples of questions that may be used to assess that process are discussed.

Focus on and Retrieve Explicitly Stated Information

Readers vary the attention they give to explicitly stated information in the text. Some ideas in the text may elicit particular focus and others may not. For example, readers may focus on ideas that confirm or contradict predictions they have made about the text's meaning or that relate to their general purpose for reading. In addition, readers often need to retrieve information explicitly stated in the text, in order to answer a question they bring to the reading task, or to check their developing understanding of some aspect of the text's meaning.

In focusing on and retrieving explicitly stated information, readers use various ways to locate and understand content that is relevant to the question posed. Retrieving appropriate text information

requires that the reader not only understand what is stated explicitly in the text, but also how that information is related to the information sought.

Successful retrieval requires a fairly immediate or automatic understanding of the text. This process needs little or no inferring or interpreting. There are no "gaps" in meaning to be filled – the meaning is evident and stated in the text. The reader must, however, recognize the relevance of the information or idea in relation to the information sought.

Focus on the text typically remains at the sentence or phrase level in this type of text processing. The process may require the reader to focus on and retrieve several pieces of information; but in each case the information is usually contained within a sentence or phrase.

Reading tasks that may exemplify this type of text processing include the following:

- identifying information that is relevant to the specific goal of reading
- looking for specific ideas
- searching for definitions of words or phrases
- identifying the setting of a story (e.g., time, place)
- finding the topic sentence or main idea (when explicitly stated)

Make Straightforward Inferences

As readers construct meaning from text, they make inferences about ideas or information not explicitly stated. Making inferences allows the reader to move beyond the surface of texts and to fill in the "gaps" in meaning that often occur in texts. Some of these inferences are straightforward in that they are based mostly on

information that is contained in the text: the reader may merely need to connect two or more ideas or pieces of information. Although the ideas may be explicitly stated, the connection between them is not, and thus must be inferred. Straightforward inferences are very much text-based. Although not explicitly stated in the text, the meaning remains relatively clear.

Skilled readers often make these kinds of inferences automatically. They may immediately connect two or more pieces of information, recognizing the relationship even though it is not stated in the text. In many cases, the author has constructed the text to lead readers to the obvious or straightforward inference. For example, the actions of a character across the story may clearly point to a particular character trait, and most readers would come to the same conclusion about that character's personality or viewpoint.

With this type of processing, the reader typically focuses on more than just sentence- or phrase-level meaning. The focus may be on local meaning, residing in part of the text, or on more global meaning, representing the whole text. In addition, some straightforward inferences may call upon readers to connect local and global meanings.

Reading tasks that may exemplify this type of text processing include the following:

- inferring that one event caused another event
- concluding what is the main point made by a series of arguments
- determining the referent of a pronoun
- identifying generalizations made in the text
- describing the relationship between two characters

Interpret and Integrate Ideas and Information

As with the more straightforward inferences, the reader engaging in this process may focus on local or global meanings, or may relate details to overall themes and ideas. In any case, the reader is processing text beyond the phrase or sentence level.

As readers interpret and integrate ideas and information in the text, they often need to draw on their understanding of the world. They are making connections that are not only implicit, but that may be open to some interpretation based on their own perspective. When they interpret and integrate text information and ideas, readers may need to draw on their background knowledge and experience more than they do for straightforward inferences. Because of this, meaning that is constructed through interpreting and integrating ideas and information is likely to vary among readers, depending upon the experiences and knowledge they bring to the reading task.

By engaging in this interpretive process, readers are attempting to construct a more specific or more complete understanding of the text by integrating personal knowledge and experience with meaning that resides in the text. For example, the reader may draw on experience to infer a character's underlying motive or to construct a mental image of the information conveyed.

Reading tasks that may exemplify this type of text processing include the following:

- discerning the overall message or theme of a text
- considering an alternative to actions of characters
- comparing and contrasting text information
- inferring a story's mood or tone
- interpreting a real-world application of text information

Examine and Evaluate Content, Language, and Textual Elements

As readers examine and evaluate the content, language, and elements of the text, the focus shifts from constructing meaning to critically considering the text itself. In terms of content, readers draw on their interpretations and weigh their understanding of the text against their understanding of the world – rejecting, accepting, or remaining neutral to the text's representation. For example, the reader may counter or confirm claims made in the text or make comparisons with ideas and information found in other sources.

In reflecting on text elements, such as structure and language, readers examine how meaning is presented. In doing so, they draw upon their knowledge of text genre and structure, as well as their understanding of language conventions. They may also reflect on the author's devices for conveying meaning and judge their adequacy, and question the author's purpose, perspective, or skill.

The reader engaged in this process is standing apart from the text and examining or evaluating it. The text content, or meaning, may be examined from a very personal perspective or with a critical and objective view. Here the reader relies on knowledge about the world or on past reading.

In examining and evaluating elements of text structure and language, readers draw upon their knowledge of language usage and general or genre-specific features of texts. The text is considered as a way to convey ideas, feelings, and information. Readers may find weaknesses in how the text was written or recognize the successful use of the author's craft. The extent of past reading and familiarity with the language are essential to this process.

Reading tasks that may exemplify this type of text processing include the following:

- evaluating the likelihood that the events described could really happen
- describing how the author devised a surprise ending
- judging the completeness or clarity of information in the text
- determining an author's perspective on the central topic
- describing how the choice of adjectives affects meaning

Purposes for Reading

Reading literacy is directly related to the reasons why people read.[4] Broadly, these reasons include reading for personal interest and pleasure, reading to participate in society, and reading to learn. For young readers, emphasis is placed on reading for interest or pleasure and reading to learn.

The PIRLS assessment of reading literacy will focus on the two purposes 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

Because both types of reading are important at this age, the PIRLS assessment contains an equal proportion of material assessing each purpose. Although the assessment distinguishes between purposes for reading, the processes and strategies readers use for both purposes are perhaps more similar than different.

Each of these purposes for reading is often associated with certain types of texts. For example, reading for literary experience is often accomplished through reading fiction, while reading to acquire and use information is generally associated with informative articles and instructional texts. However, purposes for reading do not align strictly with types of texts. Because people's tastes and interests are so varied, almost any text could meet either purpose. The content, organization, and style that may be typical of a particular text genre have implications for the reader's approach to understanding the text. It is in the interaction between reader and text that meanings are made and purposes are achieved.

The early reading of most young children centers on literary and narrative text types. In addition, many young readers also enjoy acquiring information from books and other types of reading material. This kind of reading becomes more important as students develop their literacy abilities and are increasingly required to read in order to learn across the curriculum.

Within each of the two purposes for reading, many different text forms can be identified. Texts differ in the way in which ideas are organized and presented and elicit varying ways of constructing meaning. Texts also differ in the use of adjunct aids like pictures, graphs, and tables. In selecting texts for the PIRLS assessment, the aim is to present a wide range of text types within each purpose for reading. Texts will be selected only from sources typical of those available to students in and out of school. The goal is to create a reading experience for students participating in the assessment that, as much as possible, is similar to authentic reading experiences they may have in other contexts. The two purposes for reading and the different types of texts included within each are described in the following sections.

Reading for Literary Experience

In literary reading, the reader engages with the text to become involved in imagined events, settings, actions, consequences, characters, atmosphere, feelings and ideas, and to enjoy language itself. To understand and appreciate literature, the reader must bring to the text his or her own experiences, feelings, appreciation of language and knowledge of literary forms. For young readers, literature offers the opportunity to explore situations and feelings they have not yet encountered, and to experience imaginatively an autonomy not yet available to them. The main form of literary texts used in the PIRLS assessment is narrative fiction.

Events, actions, and consequences depicted in narrative fiction allow the reader to experience vicariously and reflect upon situations that, although they may be fantasy, illuminate those of real life. The text may present the perspective of the narrator or a principal character, or there may be several such viewpoints in a more complex text. Information and ideas may be described directly or through dialogue and events. Short stories or novels sometimes narrate events chronologically, or sometimes make more complex use of time with flashbacks or time shifts.

Reading to Acquire and Use Information

In reading for information, the reader engages not with imagined worlds, but with aspects of the real universe. Through information texts, one can understand how the world is and has been, and why things work as they do. Readers can go beyond the acquisition of information and use it in reasoning and in action. Information texts need not be read from beginning to end; readers may select the parts they need. These texts take many forms, but one major distinction is that between chronological and non-chronological organization. The two make different demands on the reader, although there are no hard and fast distinctions, and a single text may use both.

Chronological texts. Texts ordered chronologically present their ideas as a sequence ordered in time. Such texts may recount events, for example as historical facts or as diary entries, personal accounts, or letters. Biographies and autobiographies, detailing the events of real lives, are a major group of texts of this type. Other chronologically organized texts are procedural, for example recipes and instructions. Here, the imperative form is often used and the reader is expected not just to understand but to act in accordance with what is read.

Non-chronological texts. In these texts, ideas are organized logically rather than chronologically. Any number of subjects may be described as explained; arguments and counterarguments may be presented or a viewpoint may be put forth with supporting evidence. Persuasive texts aim directly at influencing the reader's view. In discussion and persuasion, the reader must follow the development of ideas and bring to the text a critical mind in forming his or her own opinion. Documents that also are non-chronologically ordered are those that give information in different forms, such as lists, diagrams, charts and graphs, and some that call for actions on the part of the reader.

Reading Literacy Behaviors and Attitudes

Reading literacy involves not only the ability to construct meaning from a variety of texts, but also behaviors and attitudes that support lifelong reading.[5] Such behaviors and attitudes contribute to the full realization of the individual's potential within a literate society.

A positive attitude toward reading may be among the most important attributes of a lifelong reader. Children who read well typically display a more positive attitude than do children who have not had a great deal of success with reading. Children who have developed positive attitudes and self-concepts regarding reading are also more likely to choose reading for recreation. When children read on their own time they are not only demonstrating a positive

attitude, they are also gaining valuable experience in reading different types of texts that further their development as proficient readers.

In addition to reading for enjoyment, reading for knowledge and information is a hallmark of reading literacy acquisition. Knowledge-seeking through informational texts may help children to develop a confidence in their abilities that helps them to attain their goals. Furthermore, the knowledge gained through such reading enhances subsequent reading, broadening and deepening the reader's interpretation of texts.

Discussing one's reading, orally or in writing, establishes the reader as a member of a literate community. Readers can further develop their understanding of texts and explore various perspectives and interpretations by talking with other readers. These exchanges of ideas sustain a literate community, which in turn can lend society an intellectual depth and openness to new ideas.

3

CONTEXTS FOR LEARNING TO READ

Young children acquire reading literacy through a variety of activities and experiences within different contexts.[6] At fourth grade, children develop the skills, behaviors, and attitudes associated with reading literacy mainly at home and in school. There, various resources and activities foster reading literacy. Some of the experiences are very structured, particularly those that occur in classrooms as part of reading instruction. Others, less structured, occur as a natural and informal part of the child's daily activities. Both are critical in helping young children develop

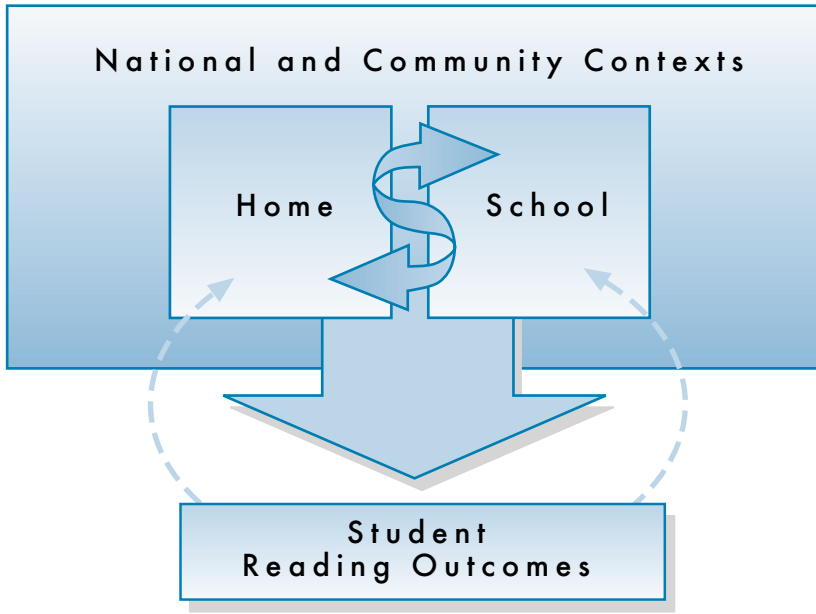
reading literacy. Moreover, each environment supports the other, and the connection between home and school is an important element in learning.

Beyond the direct home and school influences on children's reading are the broader environments in which children live and learn. Children's schools and homes are situated in communities with different resources, goals, and organizational features. These aspects of the community will likely influence children's homes and schools and thus their reading literacy. Even broader, yet as important, is the national context in which children live and go to school. The resources available in a country, government decisions about education, and the curricular goals, programs, and policies related to reading education will influence the school and home contexts for learning to read.

The relationship between the home and school and how they are situated within the community and the country is shown in Figure 3 to illustrate how PIRLS conceptualizes the influences on children's reading. Since the outcomes – students' reading literacy achievement and attitudes – also feed back into the home and school contexts to some degree, this model can be viewed as a system of reciprocal influences.

PIRLS will use questionnaires completed by the students tested, their parents or caregivers, their teachers, and their school principals to gather information about the home and school factors associated with the development of reading literacy, as well as about the larger contexts in which children live and learn. To provide information about the national contexts in which children's homes and schools are situated, PIRLS is developing an encyclopedia of reading education in the participating countries.

Figure 3: Contexts for the Development of Reading Literacy



National and Community Contexts

Demographics and Resources. The success a country has in educating its children and producing a literate population depends greatly on the resources it has available. Countries with a large and diverse population and few material and human resources will have greater difficulty than those with more favorable circumstances. Generally, the characteristics of a country's population, the system of governance, and the national economy will affect the resources available for education. Diversity of languages used in the country, levels of adult literacy, and other social and health demographics also influence the difficulty of the educational task. Many of these issues are relevant to the local context in which children live and learn as well.

Governance and Organization of Education System. How educational policies are established and implemented can have a tremendous impact upon how schools operate. Some countries have highly centralized systems of education in which most policy-related decisions are made at the national or regional level and there is a great deal of uniformity in education in terms of curriculum, textbooks, and general policies. Other countries have much more decentralized systems in which many important decisions are made at the local and school levels, resulting in greater variation in how schools operate and students are taught.

The way students proceed through school (also referred to as "student flow") is a feature of education systems that varies across countries. Particularly relevant for a study of fourth-grade reading achievement are the age of entry to formal schooling and the age when formal reading instruction begins. In addition, for a study of children at this level, the type of school that students generally attend during the early years and whether students will eventually move into a tracked or comprehensive program of study are of interest.

Curriculum Characteristics and Policies. Curricular policies are shaped in many different ways. At the highest level, they may be established in some detail by government and jurisdictional requirements. These may range from policies that govern the age or grade in which formal reading instruction begins to those that prescribe the types of material and the methods to be used in teaching reading. Even where external control over the curriculum is strong, the way the curriculum is implemented may be affected by local school characteristics and practices. Curricular aspects and governing policies particularly relevant to the acquisition of reading literacy include standards or benchmarks established for reading development, testing and promotion practices, policies for classroom assignment or grouping, instructional time, methods and materials, and ways of identifying students in need of remediation.

Home Contexts

Much research has provided insight into the importance of home environments for children's reading literacy. Long before children develop the cognitive and linguistic skills necessary for reading, early experiences with printed and oral language establish a foundation for learning. Particular home characteristics can create a climate that encourages children to explore and experiment with language and various forms of texts. As young children engage in more challenging and complex activities for play and recreation, both alone and with peers, the time devoted to literacy-related activities becomes critical. Throughout a child's development, the involvement of parents or caregivers remains central to the acquisition of reading literacy. The following discussion highlights some of the major aspects of the home that contribute to reading literacy development.

Activities Fostering Literacy. Central to the home environment are the literacy-related activities that parents or caregivers engage in with children or encourage and support. As children develop their capacity for oral language, they are learning the rules of language use – this knowledge will be translated into expectations for printed language as well.

Perhaps the most common and important early literacy activity involves adults and older children reading aloud to young children. When children are read aloud to and encouraged to engage in the text and pictures in books, they learn that printed text conveys meaning and that being able to read is valuable and worthwhile.

Other encounters with print also help to establish children's awareness of and familiarity with text. Writing activities such as writing names or forming letters reinforces young children's developing awareness of text. Drawing, especially in connection with stories and storytelling, may also promote literacy. Research also indicates that children's play with books and other print material helps to lay

the foundations of reading literacy. Moreover, early associations of enjoyment with printed text establish a positive attitude toward reading that will motivate young readers.

Language in the Home. Because learning to read is very much dependent on children's early experience with language, the language or languages spoken at home, and how language is used, are important factors in reading literacy development. Children whose knowledge of the language used in formal reading instruction is substantially below that expected of children of that age are likely to be at an initial disadvantage. In addition, use of different languages or dialects at home and school may cause problems for young students learning to read.

Home Resources. As children mature, the support and guidance provided at home contributes to literacy development in many different ways. An important aspect of the home environment is the availability of reading material and educational resources. Research consistently shows a strong positive relationship between achievement and socioeconomic status, or indicators of socioeconomic status such as parents' or caregivers' occupation or level of education. Research also shows that ready access to various types of printed material is strongly associated with literacy achievement. Homes that make such material available convey to children an expectation that learning to read is a desirable and worthwhile goal.

Parents and caregivers engaging in many literacy activities fosters children's positive attitudes towards reading. For most children, the home provides modeling and direct guidance in effective literacy practices. Young children who see adults and older children reading or using texts in different ways are learning to appreciate and use printed material. Beyond modeling, parents or other caregivers can directly support reading development by expressing positive opinions about reading and literacy.

Home-School Connection. Across all of the home factors associated with acquiring reading literacy, parents' or caregivers' involvement in children's schooling may be key to literacy development. Research shows that students who discuss their school studies and what they are reading with their parents or caregivers are higher achievers than those who do not. Involved parents or caregivers can reinforce the value of learning to read, monitor children's completion of reading assignments for school, and encourage children through praise and support.

Students' Out-of-School Literacy Activities. As children continue to develop reading literacy, the time they devote to reading and other recreational activities becomes significant. The child not only enjoys reading for recreation but also practices skills that are being learned. Reading for fun or to investigate topics of interest is the hallmark of lifelong reading. Thus, children may choose to spend their out-of-school time reading books or magazines, looking up information on the Internet, or going to a local library to read or take out books. The home environment can be fertile ground for developing such behaviors and attitudes. The influence of peers may also be important.

At home, balancing the time spent on literacy-related activities with that spent on perhaps less enriching pastimes is important. Some research indicates a negative correlation between time spent watching television and reading achievement, while time spent reading for fun is positively correlated. Also, discussing reading with friends helps young readers understand how text may be interpreted in different ways by different readers.

School Contexts

Although the home can be a rich environment for developing reading literacy, for most children school remains the main location for formal learning and educational activities. By fourth grade (ages 9 and 10), most students have acquired basic reading skills and are beginning to read more complex material with greater independence. This is due in part to the changed curricular demands placed on students at this level. At this point, children are transitioning from "learning to read" to "reading to learn." Students' educational experiences may be especially significant at this point in their reading literacy development.

Many factors in school affect reading literacy acquisition, directly or indirectly. The general environment and resources of the school set the tone for accomplishment in the classroom, although their impact may be less direct than students' day-to-day activities. The behaviors, attitudes, and literacy level of classmates can influence a student's development. Clearly, one of the most direct influences is the teacher. His or her preparation and training, as well as the instructional approaches and materials used, are clearly important to the classroom environment. Some of the main school factors that contribute to the acquisition of reading literacy are discussed below.

School Environment and Resources. The school environment encompasses many factors that affect a student's learning. The sense of security that comes from having few behavior problems and little or no crime promotes a stable learning environment. School-wide programs that provide for the basic needs of students and their families (e.g., before- or after-school child care programs) may also be important. Other school-wide programs, which focus specifically on reading and literacy development, may directly support the acquisition of skills and attitudes toward reading literacy. The school environment is also enhanced when staff members show positive attitudes toward students and collaborate in curricular and extracurricular activities that foster learning.

The extent and quality of school resources are also critical. These may include resources as basic as trained teachers or adequate classroom space as well as less essential but beneficial resources like comfortable furniture and surroundings. The presence of a library or multi-media center may be particularly relevant for developing reading literacy. In addition, a reading specialist or language arts curriculum director can be important in strengthening the reading curriculum.

Teacher Training and Preparation. The qualification and competence of teachers can be critical. Much has been written about what makes a teacher effective. One issue is the nature, amount, and content of teachers' training and education. For example, whether or not a teacher has been extensively trained in teaching reading may be especially relevant for students' acquisition of reading literacy.

The extent of teachers' continuing education and exposure to recent developments within the field of teaching reading is also important. Professional development through seminars, workshops, conferences, and professional journals can help teachers to increase their effectiveness and broaden their knowledge of reading literacy acquisition. In some countries and jurisdictions, teachers are required to participate in such activities. Moreover, it has been suggested that the profession of teaching is one that requires lifelong learning, and that the most effective teachers continue to acquire new knowledge and skills throughout their careers.

Classroom Environment and Structure. Young students spend many hours each day in one or more classrooms. Classroom environment and structure have a significant influence on reading literacy development. The classroom can vary greatly, from highly structured and teacher-centered to more open and student-centered. One fundamental characteristic that may dictate how teachers approach instruction is class size, or teacher-to-student ratio. Some research has indicated that smaller class sizes during the early years of schooling may benefit students' reading development.

Other aspects of the classroom that are relevant for reading literacy include the extent of the reading material available to students. The presence of a classroom library or a special place for independent reading may foster positive reading habits and attitudes, in addition to giving students ready access to a wide variety of texts and text types. Also related to reading development is the interaction among students, informally and in classroom discussion of reading and literacy-related activities. Classrooms that encourage language development and establish a supportive environment for talking about reading may be especially effective.

Instructional Strategies and Activities. There are innumerable strategies and activities that teachers may use for reading instruction. Much research has been devoted to investigating which are most effective. Most educators and researchers agree that using elements of various approaches may be best, particularly when teachers tailor them to the needs of their students.

The activities most relevant for reading literacy development include those that pertain to word recognition, comprehension, cognitive and metacognitive reading strategies, writing activities such as story construction, and integrating all of the language processes – reading, writing, speaking, and listening. The way in which reading is assessed in the classroom is also important.

Instructional Materials and Technology. The reading material and technology that teachers use in reading instruction form the core of students' reading experience in school. The material can range from a single textbook or "reading series" containing a variety of text types, to several books and other print materials compiled by the teacher. Regardless of format, research has indicated that the students' exposure to a variety of texts and text types is associated with achievement in reading.

The use of electronic texts and other technologies is emerging as an important part of students' literacy learning. Reading "on-line" may soon become an essential literacy skill as more and more diverse types of texts and information are made available to students through the Internet.

4

ASSESSMENT DESIGN AND SPECIFICATIONS

To measure students' reading literacy achievement and gather information about the contexts for developing reading literacy, the 2001 assessment of PIRLS includes a written test of reading comprehension and a series of questionnaires focusing on contexts for reading literacy development. In addition, for countries that participated in the IEA's 1991 reading literacy study, PIRLS includes a 10-year trend study. The following sections describe the design and specifications for operationalizing each component of the study.

Test Booklet Design

Given the broad coverage goals of the PIRLS framework and its emphasis on the use of authentic texts, it was inevitable that the specifications for the item pool would include extensive testing time. The PIRLS Reading Development Group found that a valid assessment of two purposes for reading – reading for literary experience and reading to acquire and use information – required at least four hours of testing time, two hours for each purpose. While the assessment material that can be presented in that time should provide good coverage of the reading material children meet in their everyday lives, it is not reasonable to expect to administer the entire set of reading passages and test items to any one child. Because of the difficulties of scheduling student assessments and because young children cannot be subjected to long testing periods, the testing time is limited to 80 minutes per student, with an additional 15–30 minutes for a student questionnaire.

With a total testing time of four hours but just one hour and twenty minutes per student, the assessment material must be divided among students in some way. The PIRLS design uses a matrix sampling technique, whereby the passages and accompanying items are divided into groups or blocks, and individual student booklets are made up from these blocks according to a plan. In PIRLS, the four hours of testing time is divided into eight 40-minute blocks of passages and items, labeled L1–L4 for the literary passages and I1–I4 for the informational texts (see Figure 4).

Figure 4: PIRLS Matrix-Sampling Blocks

Purpose for Reading	Block			
Literary Experience	L1	L2	L3	L4
Acquire and Use Information	I1	I2	I3	I4

In the PIRLS design, the eight blocks will be distributed across 10 booklets (see Figure 5). Each student booklet will consist of two 40-minute blocks of passages and items, followed by the *Student Questionnaire*. So as to present at least some passages in a more natural, authentic setting, two blocks (one literary and one informational) will be presented in color and a magazine-type format with the questions in a separate booklet. This booklet is referred to as the PIRLS "Reader."

Figure 5: PIRLS Test Booklet Design

Booklet									
1	2	3	4	5	6	7	8	9	10 Reader
L1	L2	L3	I1	I2	I3	L1	I2	I3	L4
L2	L3	I1	I2	I3	L1	I1	L2	L3	I4

To enable linking among booklets, at least some blocks must be paired with others. Since the number of booklets can become very large if each block is to be paired with all other blocks, it was necessary to choose judiciously among possible block combinations. In the ten-booklet design used in PIRLS, nine test booklets are derived by combining three literary (L1, L2, and L3) and three informational (I1, I2, and I3) blocks. The tenth booklet, the Reader, accounts for the remaining literary block, L4, and informational block, I4. The Reader will be distributed at three times the rate of the other booklets to ensure enough students take blocks L4 and I4.

In this design, which contains half of the possible links between blocks L1 through I3, each block appears in three of the nine booklets. Blocks L1 and L2 are linked by appearing together in booklet 1, and blocks L2 and L3 are linked by appearing together in booklet 2. Since block L2 is common to both booklets 1 and 2, all three literary blocks can be linked through these two booklets.

Through a similar arrangement involving booklets 4 and 5 the three informational blocks can be linked together. Booklets 3, 6, 7, 8, and 9 ensure that there are good links between the literary and informational blocks. The blocks in the Reader, L4 and I4, are not linked to any other blocks.

Selecting Reading Passages for the Assessment

To reach the goal of approximating an authentic reading experience in the assessment, the reading passages presented to students must be typical of those read by students in their everyday experiences. Texts that exist for students to read in and outside school have typically been written by successful authors who understand writing for a young audience. These are more likely than passages written specifically for a test to elicit the full range of comprehension processes. Furthermore, they are more likely to engage students' interests, and to yield assessment questions that will elicit a range of responses to text that are similar to those elicited in authentic reading experiences. In the context of an international study, attaining authenticity in the assessment reading experience may be somewhat constrained by the need to translate a text into numerous languages. Thus, care is taken to choose texts that can be translated without loss in meaning or in potential for student engagement.

In selecting texts for use in an international survey of reading literacy, the potential for cultural bias must be considered. The set of texts used must range as widely as possible across nations and cultures. No country or culture should be over-represented in the assessment texts. Text selection thus involves collecting potential stimulus texts from as many countries as possible. The final selection of texts is based, in part, on the national and cultural representation of the entire set of assessment texts. Texts that depend heavily on culture-specific knowledge are excluded.

The appropriateness and readability of texts for assessing 9-year-olds is determined through review by educators and curriculum specialists from countries participating in the assessment.

Among the criteria used to select texts are topic and theme appropriateness for the age group; fairness and sensitivity to gender, racial, ethnic, and religious considerations; nature and level of linguistic features; and density of information. In addition, the time constraints of the test situation place some limits on the length of texts. Generally, texts selected will be no longer than 1,000 words so students have time to read the entire passage and answer the comprehension questions. However, length will vary somewhat because other text characteristics also affect rate of reading.

Question Types and Scoring Procedures

Students' ability to comprehend text through the four comprehension processes is assessed via comprehension questions that accompany each text. Two question formats are used in the PIRLS assessment – multiple-choice and constructed-response. Each multiple-choice question is worth one point. Constructed-response questions are worth one, two, or three points, depending on the depth of understanding required. Up to half of the total number of points represented by all the questions will come from multiple-choice questions. In the development of comprehension questions, the decision to use either a multiple-choice or a constructed-response format is based on the process being assessed, and on which format best enables test takers to demonstrate their reading comprehension.

Multiple-Choice Questions. Multiple-choice questions provide students with four response options, of which only one is correct. Multiple-choice questions can be used to assess any of the comprehension processes. However, because they do not allow for students' explanations or supporting statements, they may be less suitable for assessing students' ability to make more complex interpretations or evaluations.

In assessing 9-year-olds, it is important that linguistic features of the questions be developmentally appropriate. Therefore, the questions are written clearly and concisely. The response options are also written succinctly in order to minimize the reading load of the

question. The options that are incorrect are written to be plausible, but not deceptive. For students who may be unfamiliar with this test question format, the instructions given at the beginning of the test include a sample multiple-choice item that illustrates how to select and mark an answer.

Constructed-Response Questions. For this type of test item students are required to construct a written response, rather than select a response from a set of options. The emphasis placed on constructed-response questions in the PIRLS assessment is consistent with the definition of literacy underlying the framework. It reflects the interactive, constructive view of reading – meaning is constructed through an interaction between the reader, the text, and the context of the reading task. This question type is used to assess any of the four comprehension processes. However, it is particularly well-suited for assessing aspects of comprehension that require students to provide support or that result in interpretations depending upon students' background knowledge and experience.

In the PIRLS assessment, constructed-response questions will be worth one, two, or three points, depending on the depth of understanding or the extent of textual support the question requires. In these questions, it is important to provide enough information to help students understand clearly the nature of the response expected.

Scoring guides for each constructed-response question describe the essential features of appropriate and complete responses. They focus on evidence of the type of comprehension the question assesses. They describe evidence of partial understanding and evidence of complete or extensive understanding. In addition, sample student responses at each level of understanding provide important guidance to raters.

In scoring students' responses to constructed-response questions, the focus is solely on students' understanding of the text, not on their ability to write well. Also, scoring takes into account the possibility of various interpretations that may be acceptable, given

appropriate textual support. Consequently, a wide range of answers and writing ability may appear in the responses that receive full credit to any one question.

Score Points. In developing the assessment, the aim is to create blocks that each provide, on average, 15 score points – made up of approximately 7 multiple-choice items (1 point each), 2 or 3 short-answer items (1 or 2 points each), and 1 extended-response item (3 points). The exact number of score points and the exact distribution of question types per block will vary somewhat, as different texts yield different types of questions.

Reporting Scales

As each student will respond to only part of the assessment, these parts must be combined for an overall picture of the assessment results for each country. Individual student responses to the items related to each purpose for reading will be placed on a common scale using item response theory methods. There will be separate scales for the two purposes for reading:

- reading for literary experience
- reading to acquire and use information

Results will be reported separately for each purpose, and for reading literacy overall.

Releasing Assessment Material to the Public

The PIRLS data collection in 2001 is intended to be the first of a regular four-year cycle of studies that will provide data on trends in reading literacy. PIRLS will be administered again in 2005, 2009, and so on into the future. The design provides for the release of many of the passages and items into the public domain as the international reports are published, while safeguarding the trend data by not releasing a substantial proportion of the items. As passages and items are released, new assessment material will be developed to take their place.

According to the PIRLS design, one block of literary passages and one block of informational passages from the assessment will be published after the first data collection. These will be replaced with new passages and items before the next survey cycle. The contents of the PIRLS Reader also will be released, providing further information to the public. It too will be replaced before the next data collection. This plan will provide the public with one half of the test items, while keeping the other half secure to enable the measurement of trends in reading literacy. Following the second data collection, another two blocks from the original assessment, and the Reader, can be released and replaced before the third survey in the series. The entire item pool will be replaced with new material over the course of four data collection cycles.

Measuring 10-Year Trends in Reading Literacy: 1991 to 2001

Since the data collection for PIRLS 2001 is scheduled to take place 10 years after IEA's 1991 Reading Literacy Study, it is not surprising that there is great interest in finding out how student performance may have changed in the intervening period. Accordingly, for countries that participated in the earlier study, PIRLS is providing an option to measure trends in their children's reading literacy since 1991. This will be done by administering the 1991 test to a representative sample of students under the same conditions used in 1991. It will then be possible to estimate how students in 2001 perform on the 1991 reading literacy test, and to compare this with the performance of students in 1991.

The 1991 Reading Literacy Study test for 9-year-olds contains texts representing three domains – narrative, expository, and documents. There are 15 passages across the three domains, with 66 questions. The test was organized in two booklets (each student completed both booklets) and administered in 75 minutes. It was preceded by a short word recognition test and followed by a questionnaire about students' reading habits and home and school contexts for learning to read. The re-administration of the 1991 test in 2001 will include the word recognition test and the two booklets with reading passages and test questions. Timing and directions to students will be identical to the 1991 administration.

Working with the public-use data sets created for the 1991 study and with the data collected in 2001, item response theory (IRT) scaling methods will be used to place both sets of data on a common scale. It will then be possible to compare the performance of fourth-grade students in 2001 with that of their peers in 1991, for countries that participated in both studies.

Background Questionnaires

An important purpose of PIRLS is to study the home and school factors associated with children's reading literacy by the fourth grade. To that end, PIRLS will administer questionnaires to students, their parents, their teachers, and the principals of their schools. The questions are designed to measure key aspects of students' home and school environments.

Student Questionnaire. This questionnaire will be completed by each student who takes the PIRLS reading test. It asks about aspects of students' home and school lives, including classroom experiences and reading for homework, self-perception and attitudes toward reading, out-of-school reading habits, computer use, home literacy resources, and basic demographic information. The questionnaire requires 15-30 minutes to complete.

Learning to Read Survey. This short questionnaire is addressed to the parents or primary caregivers of each student taking part in the PIRLS data collection. It investigates child-parent literacy interactions, home literacy resources, parents' reading habits and attitudes, and home-school connections. Also, it collects basic demographic and socioeconomic information. Together with information collected from the students, parents' responses will provide a more complete picture of an important context for learning to read. This questionnaire is designed to take 10–15 minutes to complete.

Teacher Questionnaire. The reading teacher of each fourth-grade class in PIRLS will be asked to complete this questionnaire, which is designed to gather information about classroom contexts for developing reading literacy. The questionnaire asks teachers about characteristics of the class tested, such as size, reading level and language ability of the students; instructional time, materials, and activities for teaching reading and promoting the development of students' reading literacy; grouping of students for reading instruction; classroom resources; assessment practices; and home-school connections. It also asks teachers their views on their opportunities

for collaboration with other teachers and for professional development, and for information about themselves and their education and training. This questionnaire requires about 30 minutes of the teacher's time.

School Questionnaire. The principal of each school in PIRLS will be asked to respond to this questionnaire. It asks about enrollment and school characteristics, such as location, resources available in the surrounding area, and indicators of the socioeconomic background of the student body; instructional time; emphasis and materials used in reading instruction for students in primary grades; school resources, such as the availability of instructional materials and staff; home-school connections; and school climate. It is designed to take about 30 minutes.

Encyclopedia of Reading Education

The PIRLS encyclopedia of reading education will provide a profile of each country's education system, with a particular focus on reading education for primary-school children. The volume will provide general information about population, government, economy, and resources and describe how the education system is organized and how decisions about education are made. The reading curriculum, including goals, materials, and instruction, will be discussed, along with information on assessment of reading achievement.

Electronic Text Study

At home and at school, children are increasingly using new electronic technologies to search out, assess, and synthesize a variety of written and visual material. They use computers to explore the Internet, communicate with friends and family, and read and write texts of various types. We know that the presentation of the texts read in schools and elsewhere will gradually evolve toward more electronic formats, with literacy being gauged increasingly in relation to text presented on screen. Sometimes the text layout of on-screen information can be very similar to that in paper documents, but often it is different, requiring different reading processes.

To provide relevant information about current and future levels of reading literacy achievement, it is very important for PIRLS to begin to examine children's ability to read electronic text. Due to the growing prevalence of electronic texts in children's everyday experience, PIRLS is developing a study of children's literacy with electronic texts. This study, while exploratory, will provide important information about children's ability to read and use information on the Internet. Of course, familiarity with computers and with reading electronic texts will likely be a prominent factor in how well students read and construct meaning from such texts. PIRLS will gather information about the ways children use computers and the Internet, and about their attitudes towards texts presented in this way.

ENDNOTES and REFERENCES

The following works, grouped by general topic, were consulted in developing the PIRLS reading literacy framework. In actuality, many sources and individuals informed the PIRLS framework and so these references are only a sample of all that were consulted.

1

IEA's 1991 reading literacy study.

Elley, W. B. (1992). *How in the world do students read?* The Hague, Netherlands: IEA.

Elley, W. B. (Ed.). (1994). *The IEA study of reading literacy: Achievement and instruction in thirty-two school systems.* Oxford, England: Elsevier Science Ltd.

Wolf, R. M. (Ed.). (1995). *The IEA Reading Literacy Study: Technical report.* The Hague, Netherlands: IEA.

2

Theories of reading literacy.

Anderson, R. C., & Pearson, P. D. (1984). A schema-theoretic view of basic processes in reading comprehension. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 255–291). White Plains, NY: Longman.

Clay, M. (1991). *Becoming literate: The construction of inner control.* Auckland: Heinemann.

Chall, J. (1983). *Stages of reading development.* New York: McGraw-Hill.

Greaney, V. & Neuman, S. B. (1990). The functions of reading: A cross-cultural perspective. *Reading Research Quarterly, 25* (3), 172–195.

Langer, J. A. (1995). *Envisioning literature.* Newark, DE: International Reading Association.

Organisation for Economic Cooperation and Development. (1999). *Measuring student knowledge and skills: A new framework for assessment.* Paris: Author.

Rosenblatt, L. M. (1978). *The reader, the text, the poem: The transactional theory of the literary work.* Carbondale: Southern Illinois University Press.

Ruddell, R. B., Ruddell, M. R., & Singer, H. (Eds.). (1994). *Theoretical models and processes of reading.* Newark, DE: International Reading Association.

Thorndike, R. L. (1973). *Reading comprehension education in fifteen countries. International studies in evaluation III.* Stockholm: Almqvist and Wiksell.

Wagemaker, H., Taube, K., Munck, I., Kontogiannopoulou-Polydorides, G., and Martin, M.O. (1996). *Are girls better readers? Gender differences in reading literacy.* Amsterdam: IEA.

Wagner, D. A. (1991). Literacy in a global perspective. In I. Lundberg and T. Hoien (Eds.) *Literacy in a world of change: Perspectives on reading and reading disability.* Stavanger: Centre for Reading Research.

Walter, P. (1999). Defining literacy and its consequences in the developing world. *International Journal of Lifelong Education, 18* (1), 31–48.

3

Processes of comprehension.

Barr, R., Kamil, M. L., Mosenthal, P., & Pearson, P. D. (Eds.). (1990). *Handbook of reading research* (Vol. 2). New York: Longman.

Bogdan, D. & Straw, S. B. (Eds.). (1990). *Beyond communication: Reading comprehension and criticism.* Portsmouth, NH: Boyton/Cook.

Dole, J. A., Duffy, G. G., Roehler, L. R., & Pearson, P. D. (1991). Moving from the old to the new: Research on reading comprehension and instruction. *Review of Educational Research, 61,* 239–264.

Downing, J. (1973). *Comparative reading: Cross-national studies of behaviour and processes in reading.* Collier McMillan: London.

Eco, U. (1990). *The limits of interpretation.* Bloomington, IN: Indiana University Press.

Oakhill, J., Beard, R., & Vincent, D. (Eds.). (1995). Special issue: The contribution of psychological research. *Journal of Research in Reading,* 18 (2).

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading.* Hillsdale, NJ: Lawrence Erlbaum.

Van dijk, T. A. & Kintsch, W. (1983). *Strategies of discourse comprehension.* New York: Academic Press.

4

Types of texts children read and the purposes for which they read.

Barr, R., Kamil, M. L., Mosenthal, P., & Pearson, P. D. (Eds.). (1990). *Handbook of reading research* (Vol. 2). New York: Longman.

Iser, W. (1974). *The implied reader.* Baltimore: Johns Hopkins University Press.

Kirsch, I. S. & Mosenthal, P. B. (1989–1991). Understanding documents. A monthly column appearing in the *Journal of Reading.* Newark, DE: International Reading Association.

Langer, J. A. (1990). The processes of understanding: Reading for literary and informative purposes. *Research in the Teaching of English, 24* (3), 229–259.

Werlich, E. (1976). *A text grammar of English.* Heidelberg: Quelle and Meyer.

5

Students' reading attitudes and behaviors.

Baker, L., Afflerbach, P., & Reinking, D. (1996). *Developing engaged readers in school and home communities.* Hillsdale, NJ: Erlbaum.

Cramer, E., & Castle, M. (Eds.). (1994). *Fostering the love of reading: The affective domain in reading education.* Newark, DE: International Reading Association.

Gfeller, E. (1997). Why should I learn to read? Motivations for literacy acquisition in a rural education programme. *International Journal of Educational Development, 17* (1), 101-112.

Kurtz-Costes, B. E., & Schneider, W. (1994). Self-concept, attributional beliefs, and school achievement: A longitudinal analysis. *Contemporary Educational Psychology, 19* (3), 199-216.

6

Home and school factors associated with reading literacy.

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print.* Cambridge, MA: MIT Press.

Baker, C. & Luke, A. (Eds.). (1991). *Toward a critical sociology of reading pedagogy.* Philadelphia, PA: John Benjamins.

Belanger, P., Winter, C., & Sutton, A. (Eds.). (1992). *Literacy and basic education in Europe on the eve of the 21st century.* Strasbourg: Council of Europe.

Camborne, B. (1988). *The whole story: Natural learning and acquisition of literacy in the classroom.* Sydney: Ashton Scholastic.

Christenson, S. L. (1992). Family factors and student achievement: An avenue to increase students' success. *School Psychology Quarterly, 7* (3), 178–206.

Creighton, D. C. (1997). Critical literacy in the elementary classroom. *Language Arts, 74* (6), 438–448.

Gambrell, L. B., & Almasi, J. F. (Eds.). (1997). *Peer talk in the classroom: Learning from research.* Newark, DE: International Reading Association.

Gough, P. B. (1975). The structure of language. In D. Duane & M. Rawson (Eds.), *Reading, perception and language.* Baltimore, MD: York Press.

Greaney, V. (1996). *Promoting reading in developing countries.* Newark, DE: International Reading Association.

Guthrie, J.T. & Alvermann, D.E. (1999). *Engaged reading: Processes, practice, and policy implications.* New York: Teachers' College Press.

Hall, K. (1998). Critical literacy and the case for it in the early years of school. *Language, Culture and Curriculum, 11* (2), 183-194.

Holdaway, D. (1979). *The foundations of literacy.* Sydney, Auckland: Ashton Scholastic.

Jacobs, G. (1997). *Successful strategies for extensive reading.* Singapore: RELC.

Lundberg, I., & Linnakylä, P. (1993). *Teaching reading around the world.* Hamburg: IEA.

Neuman, S. B. (1999). Books make a difference: A study of access to literacy. *Reading Research Quarterly, 34* (3), 286–311.

Owen, P., & Pumfrey, P. (Eds.). (1995). *Children learning to read: International concerns* (Vols. 1–2). London: Falmer Press.

Postlethwaite, T. N., & Ross, K. (1992). *Effective schools in reading: Implications for educational planners.* Hamburg: IEA.

Stierer, B., & Maybin J. (Eds.). (1994). *Language, literacy and learning in educational practice.* Buckingham: Open University Press.

APPENDIX A

PIRLS National Research Coordinators
Contributors to PIRLS Development

Progress in International Reading Literacy Study National Research Coordinators Contributors to PIRLS Development

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APPENDIX C

Comparison of the Progress in International Reading Literacy Study (PIRLS) and the Programme for International Student Assessment (PISA)

Reading Assessment Frameworks

The OECD's Programme for International Student Assessment (PISA) in reading literacy for 15-year-olds being is being conducted in 2000, to be followed soon after by PIRLS, in 2001. It is important that participants and policymakers understand the relationship between the two studies, and in particular the policy-relevant characteristics that are unique to PIRLS.

PIRLS was designed to provide comparative information on the reading literacy of fourth-grade students (ages 9 to 10), with a particular focus on the factors, at home and in the school, which facilitate the acquisition of literacy in young children. By targeting children of primary-school age and making the acquisition of literacy a principal study goal, PIRLS seeks to complement the work-oriented, across-the-curriculum perspective on literacy offered by PISA. While PISA is concerned with the literacy needs of students as they make the transition from the world of school to the world of work, PIRLS addresses progress at the equally important stage when students move from learning to read to reading to learn.

The skills that form the foundation for later literacy are learned at this time, so that improvements in curriculum or instruction at this stage can be expected to yield great dividends later on. PIRLS plans extensive investigations into the reading curriculum and instructional practices used not just with fourth-grade students, but with students in the earlier grades also. This is in contrast to PISA, which collects little information about curriculum or instructional factors within schools. For countries participating in both studies, therefore, PIRLS will provide a wealth of information that can be used not only to improve the reading curriculum and instruction for younger students, but also to help in interpreting the results of PISA for 15-year-old students.

Although the central goal of both PIRLS and PISA is to inform participating countries about the reading literacy achievement of their students, differences in curricular demands and developmental

expectations placed on 9-year-olds and 15-year-olds result in a slight difference in emphasis. As 9-year-olds commonly have just reached the end of their early reading instruction, PIRLS focuses more on the acquisition of reading literacy. In contrast, 15-year-olds typically are preparing to enter the workforce or higher education; thus, PISA examines reading literacy as an indicator of civic and employment preparedness. This nuance of difference in focus demonstrates how the two programs complement each other by addressing the reading literacy development of students at two very different developmental milestones.

Central to both the PIRLS and the PISA assessment frameworks is the definition of the construct being assessed. For both programs, the definition is based on an expanded notion of reading – hence the term "reading literacy" in both cases, rather than simply "reading." Both definitions include not only the processes and skills of reading comprehension, but also the uses of and attitudes toward reading that characterize proficient readers. Both PIRLS and PISA view reading as an interactive, constructive process and emphasize the importance of students' ability to reflect on reading and to use reading for different purposes.

For the PIRLS assessment, reading literacy for 9-year-olds is defined as:

> ...the ability to understand and use those written language forms required by society and/or valued by the individual. Young readers can construct meaning from a variety of texts. They read to learn, to participate in communities of readers, and for enjoyment.

For the PISA assessment, reading literacy for 15-year-olds is defined as:

> ...understanding, using, and reflecting on written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society.

Both definitions take into account the range of material students choose and are required to read. By doing so, they suggest that reading is not a unitary skill, but rather a set of processes, approaches, and skills that vary across readers, text types, and purposes or situations for reading. While social, personal, and curricular elements of reading literacy are also emphasized in both definitions, the developmental differences between the two age groups are apparent here. For 9-year-olds, PIRLS emphasizes the typical environment in which they read. Furthermore, while PISA stresses students' readiness to participate in the larger society, PIRLS emphasizes students' ability to participate in "communities of readers...." (home and classroom).

Reading Purposes/Situations and Text Types. In describing the purposes or situations for reading and the types of texts associated with each, the PIRLS and PISA reading frameworks diverge somewhat, reflecting the developmental differences of the two groups. For 9-year-olds, PIRLS emphasizes *purposes* for reading, describing two of the most common for this age group – reading for literary experience and reading to acquire and use information. For 15-year-olds, PISA describes *situations* for reading, reflecting the broader uses of reading at this age level – reading for private use, for public use, for work, and for education.

Processes/Aspects of Comprehension. Both frameworks describe ways of understanding or responding to texts that provide specifications for the type of comprehension questions posed to students. For PIRLS, these are described as four "processes of comprehension." The PISA framework distinguishes between "macro and micro aspects of understanding text." The five macro aspects are very similar to the PIRLS's four processes of comprehension. As an additional dimension of the PISA framework, the micro aspects are related specifically to the demands of the individual comprehension questions. Figure C.1 lists the four PIRLS reading processes and the comparable macro aspects of reading described in the PISA framework.

Figure C.1: Comparison of PIRLS Processes of Comprehension and PISA Macro Aspects of Understanding Text

PIRLS Processes of Comprehension	**PISA** Macro Aspects of Understanding Text
Focus on and Retrieve Explicitly Stated Information – locate and understand relevant information or ideas that are explicitly stated in text. ***Make Straightforward Inferences*** – move beyond surface meaning to make straightforward, text-based inferences. ***Interpret and Integrate Ideas and Information*** – draw on understanding of the world, experience, or other knowledge to find connections between ideas and information in the text. ***Examine and Evaluate Content, Language, and Textual Elements*** – critical consideration of the text; reflect on and evaluate text content; consider and evaluate text structure, language use, literary devices, or author's perspective and craft.	***Forming a Broad General Understanding*** – initial reading to determine whether text suits intended goals; consider texts as a whole, make predictions about text. ***Retrieving Information*** – scan, search, locate, and select relevant information. ***Developing an Interpretation*** – develop a more specific or complete understanding; understand interaction between local and global cohesion within text; use information and ideas activated during reading yet not explicitly stated in the text. ***Reflecting on the Content of a Text*** – connect information found in text to knowledge from other sources; assess claims made in text against own knowledge. ***Reflecting on the Form of a Text*** – stand apart from the text and consider it objectively; evaluate text's quality and appropriateness; understand text structure, genre, and register.