



ESTABLISHING A LINK BETWEEN IEA'S LITERACY AND NUMERACY ASSESSMENT AND IEA'S TIMSS AND PIRLS

IEA invites countries to participate in a special administration of the new Literacy and Numeracy Assessment (LaNA), an assessment targeted to students at the end of primary school in lower- and lower-middle income countries, with the purpose of contributing to the monitoring of SDG 4.1.1.



TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE



PURPOSE AND OBJECTIVES

LaNA is a short, basic international assessment that measures early literacy and numeracy at the end of primary school. LaNA is based on IEA's international large-scale educational assessments TIMSS (Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy Study) in which more than 70 countries worldwide participate.¹ LaNA has been adapted to meet the needs of less advanced student populations and implementation conditions where IEA's TIMSS and PIRLS may be too difficult or not feasible to implement. By participating, countries are able to generate reliable and standardized measures of literacy and numeracy for their student population and, via additionally administered TIMSS/PIRLS linkage material, to compare their proficiencies to the TIMSS and PIRLS scales and lower benchmarks. These benchmarks, in turn, **will serve as measures towards Sustainable Development Goal (SDG) 4.1.1b** (i.e., the proportion of children achieving at least a minimum proficiency level in reading and mathematics at the end of primary education).

IEA and its partner the TIMSS & PIRLS International Study Center at Boston College are seeking countries to participate and contribute to the validation of the LaNA assessment instruments. The objective of the proposed administration is to collect sufficient data to establish a psychometrically sound linkage of LaNA to IEA's TIMSS and PIRLS. This link will provide participating countries (as well as future countries administering LaNA) an indication of the percentage of their students achieving a minimum proficiency level in reading and mathematics and, therefore, a means to monitor progress towards SDG 4.1.1.b.

IEA will cover all costs towards the development, international preparation, data processing, and evaluation of the study; therefore, **no international fees will be applicable for participating countries for this proposed administration of LaNA.**

Participating countries are only expected to cover their own national administration costs and can do so with the assistance of donor opportunities. IEA may also be able to assist countries in identifying donor opportunities associated with their national implementation costs.



WHO SHOULD PARTICIPATE?

LaNA's unique framework targets literacy and numeracy achievement of students in countries where standardized internationally comparative assessments may be too difficult for the student population.

LaNA is also intended as a capacity building opportunity for countries in the administration of standardized international comparative assessments for national teams in different areas, such as: sampling, translation and national adaptation, standardized test administration/tracking of respondents, and data entry/data verification. Countries may use the administration of LaNA as a building block for further development of a national monitoring system and additional training can be offered. For additional trainings, additional costs would be applicable.

LaNA has already been successfully piloted in different countries, including Nigeria, North Macedonia, Serbia, Pakistan (Punjab), and Haiti, and can be administered in the fourth, fifth, or sixth grades. The grade for the sample to be drawn will be determined in consultation with the TIMSS & PIRLS International Study Center at Boston College.

Approximately 4,500 end-of-primary school students from at least 100 schools per country (or a census of primary schools in smaller countries) will be required to complete LaNA booklets and the TIMSS/PIRLS linkage material in a rotated design.

The proposed LaNA administration project includes a practice administration scheduled for April to May 2023 (in about 5 to 10 schools), followed by a main data collection in October to November 2023.



LANA STUDY DESIGN

LaNA is a shorter, less demanding assessment in comparison to TIMSS and PIRLS, meant to be administered at the end of primary school, and is rooted in the comprehensive assessment frameworks of TIMSS and PIRLS. The LaNA assessment only contains multiple-choice item types.

LaNA's literacy assessment consists of a reading comprehension test, in which students read simple passages and answer related questions. The passages encompass the PIRLS dual purposes for reading: reading for literary experience (stories) and reading to acquire and use information.

LaNA's numeracy assessment includes adjusted items from TIMSS, covering topics such as recognizing and comparing simple fractions, whole number computation, and reading graphs.

LaNA linkage material will be administered to about half of the students (to allow linking LaNA to TIMSS/PIRLS benchmarks) and contains more challenging material (for example longer text passages and harder mathematics problem-solving items) sourced from applicable, or easier, parts of the original TIMSS and PIRLS assessments. The linkage material will also contain some items in constructed-response format.

Additionally, IEA's LaNA includes two contextual questionnaires: one for schools and one for students, which collect information regarding the environment in which learning takes place. Contextual information focusing on topics like available resources, student's experiences in learning, or the environment for learning can be used to further examine characteristics of successful students and schools.

COSTS AND FUNDING



Participating countries are required to cover all the costs of administering the study at the national level. National costs depend on the salary levels and cost structures within each country. IEA can assist participants with developing their own national budget, by providing an outline of the staffing required, tasks to be covered, and equipment needed for successful implementation.

OUTCOMES AND BENEFITS OF PARTICIPATION

Key benefits for countries participating in the proposed administration include:

- Information about students' literacy and numeracy proficiencies that can be compared to international benchmarks.
- An estimate of the percentages of students reaching the TIMSS and PIRLS low benchmarks, which are both officially recognized indicators towards SDG 4.1.1b.
- A summary report of numeracy and literacy results across participating countries as they relate to major contextual factors at school and home.
- Valuable experience in standardized international assessment, implementation of the assessment procedures, and capacity building in planning and administering assessments and reporting outcomes.
- A documented database containing comparable and reliable LaNA data allowing for further analyses to support national educational planning and policymaking.
- A complimentary user guide and IEA software facilitating the analysis steps.
- The opportunity to extend the context questionnaires to better target the needs of participating countries, allowing for the identification of characteristics of successful students and schools.
- International LaNA fees waived for this special administration initiative.



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PROPOSED TIMELINE

This proposal focuses on establishing a linkage of LaNA to TIMSS/PIRLS by analyzing data from all participating countries together and, therefore, requires a common administration schedule across countries.



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ABOUT IEA

The International Association for the Evaluation of Educational Achievement (IEA) is an international cooperative of national research institutions, governmental research agencies, scholars, and analysts working to research, understand, and improve education worldwide. We conduct high-quality, large-scale comparative studies of education across the globe to provide educators, policymakers, and parents with insights into how students perform.

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