

Amsterdam, 28 April 2020

Formal Invitation to participate in the IEA Trends in International Mathematics and Science Study (TIMSS) 2023

Dear colleagues,

I am pleased to extend a formal invitation to participate in TIMSS 2023; the eighth cycle of the international mathematics and science assessment since the inauguration of the study in 1995. IEA's TIMSS assesses mathematics and science achievement of students in fourth and eighth grade. The achievement data are accompanied by a rich array of contextual questionnaire data about how countries around the world deliver and improve learning in mathematics and science. Trend results across study cycles permit countries to monitor the effectiveness of their educational systems in a global context.

TIMSS 2023 will transition to the computer-based assessment version of the study, eTIMSS, which was initiated in TIMSS 2019. The rationale behind transitioning to eTIMSS is to keep pace with an increasing worldwide reliance on digital communication and assessment, enabling participating countries to capitalize on the benefits of technology to ask students to solve mathematics problems and conduct science investigations in interactive situations. These problem-solving and inquiry (PSI) tasks simulate real-world and laboratory situations. Calling on students to combine process skills and content knowledge, they provide better measures of the cognitive domains (application and reasoning) central to the TIMSS assessment framework. As in the previous cycle, process data will be collected during the digital assessment to facilitate a better understanding of students' approaches to mathematics problem-solving and scientific inquiry, test-taking strategies, and engagement. While we strongly encourage countries to opt for eTIMSS, a version of the paper and pencil assessment remains available for those countries that are unable to transition to eTIMSS during the 2023 cycle.

A new feature of TIMSS 2023 will be an innovative, group adaptive design that allows for a better alignment of the assessment with the student populations in the participating countries. Working toward this design, TIMSS 2023 will begin assembling item blocks by level of difficulty – less difficult, medium, and more difficult. All countries will have the same assessment and administer all the item blocks. However, higher-performing countries have the option to administer the more difficult item blocks to a higher proportion of their students, and lower-performing countries to a lower proportion of their students. This new design will enable TIMSS 2023 to provide a better match between the difficulty of the assessment and student achievement, and therefore greater insights into students' abilities.

The 2023 cycle presents countries with the unique opportunity to participate in TIMSS and IEA's International Computer and Information Literacy Study (ICILS) at the same time. The parallel data collection of both studies in 2023 will enable participating entities to gain a more holistic understanding of educational outcomes: whereas ICILS measures computer literacy skills of students, TIMSS uses a computer-based assessment to assess mathematics and science achievements. Participating in both studies will enable countries to relate these educational outcomes. In addition, the burden for countries to participate in two IEA studies can be minimized and synergies can be strengthened.

The first TIMSS 2023 National Research Coordinators (NRCs) meeting will take place in Hamburg, Germany, in February 2021. Hosted by IEA in close collaboration with the TIMSS & PIRLS International Study Center at Boston College, this meeting will be an important opportunity for participants to discuss the scope of the study, broad directions for additions and refinements, and the general design of TIMSS 2023. In addition, participants will commence the process of item writing during this meeting. Given the importance of the first NRC meeting, we strongly encourage all interested countries to send a representative to this meeting, even if participation in TIMSS 2023 is not yet fully confirmed. More detailed information about the meeting will follow in due time.

For additional information, please find attached to this letter the TIMSS 2023 brochure, an explanation of the participation fees, an overview of estimated national costs, information sheets outlining National Study Center tasks and job descriptions, as well as a provisional timeline for TIMSS 2023.

If you have any questions about participating in TIMSS 2023 or if you would like to receive the draft participation agreement, please do not hesitate to contact Dr Andrea Netten, Director of IEA Amsterdam (a.netten@iea.nl).

Yours sincerely,



Dr Dirk Hastedt
Executive Director