



# Foreword

In addressing the challenges associated with developing a nation's educational policies, countries need to consider not only the broader societal demands for a system of education that meets the challenge of producing an educated citizenry but also the need to provide educational opportunities and experiences that adequately prepare students pursuing their education to the most advanced levels. Technologically advanced economies demand a workforce with advanced skills and knowledge, which requires an education system capable of preparing those students who will be the future technicians, scientists, engineers and doctors.

TIMSS Advanced 2008, which is a project of the International Association for the Evaluation of Educational Achievement (IEA), is part of the TIMSS (Trends in International Mathematics and Science Study) series of projects that examine student achievement in mathematics and science together with curricular and instructional practices in a number of countries. It represents the continued efforts of the IEA to work with countries in assisting them to improve educational policies and practices related to the teaching and learning of mathematics and science in elementary and secondary schools.

In 1995, the first cycle of TIMSS, which examined the teaching and learning of mathematics and science at five grade levels in 45 countries, included an assessment of students in their final year of schooling who were studying advanced mathematics and physics in preparation, usually, for further study in tertiary institutions. The advanced assessment in 1995 had 20 participating countries, 16 in advanced mathematics and 16 in physics. TIMSS Advanced 2008, like its predecessor in 1995, once again focuses on those students who were enrolled in their final year of schooling and were studying advanced mathematics or physics as part of their academic program. Conducted thirteen years later, TIMSS Advanced 2008 provides an opportunity for those countries that participated in 1995 to examine and reflect on changes in performance that may have occurred in the intervening period, and for countries that are participating for the first time to consider the performance of their elite mathematics and physics students in an international context.

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